Service
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200CW8FB/00 200CWFB/69 200CW8FB/93

Service Manual

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SAFETY NOTICE

ANY PERSON ATTEMPTING TO SERVICE THIS CHASSIS MUST FAMILIARIZE HIMSELF WITH THE CHASSIS AND BE AWARE OF THE NECESSARY SAFETY PRECAUTIONS TO BE USED WHEN SERVICING ELECTRONIC EQUIPMENT CONTAINING HIGH VOLTAGES.

CAUTION: USE A SEPARATE ISOLATION TRANSFOMER FOR THIS UNIT WHEN SERVICING

REFER TO BACK COVER FOR IMPORTANT SAFETY GUIDELINES

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飛利浦 PHILIPS

Revision List

Version	Release Date	Revision History
A00	Aug.31, 2007	Initial release, Draft Version
A01	Sep.25, 2007	Add new BOM in Item17
A02	Oct.22,2007	Add Philips 12NC for Model 200CW8FB/69 and 200CW8FB/93
A03	Nov.25,2007	Add Philips 12NC for 715GT039 A

Important Safety Notice

Proper service and repair is important to the safe, reliable operation of all Philips Company Equipment. The service procedures recommended by Philips and described in this service manual are effective methods of performing service operations. Some of these service operations require the use of tools specially designed for the purpose. The special tools should be used when and as recommended.

It is important to note that this manual contains various CAUTIONS and NOTICES which should be carefully read in order to minimize the risk of personal injury to service personnel. The possibility exists that improper service methods may damage the equipment. It is also important to understand that these CAUTIONS and NOTICES ARE NOT EXHAUSTIVE. Philips could not possibly know, evaluate and advise the service trade of all conceivable ways in which service might be done or of the possible hazardous consequences of each way. Consequently, Philips has not undertaken any such broad evaluation. Accordingly, a servicer who uses a service procedure or tool which is not recommended by Philips must first satisfy himself thoroughly that neither his safety nor the safe operation of the equipment will be jeopardized by the service method selected.

Hereafter throughout this manual, Philips Company will be referred to as Philips.

WARNING

Use of substitute replacement parts, which do not have the same, specified safety characteristics may create shock, fire, or other hazards.

Under no circumstances should the original design be modified or altered without written permission from Philips. Philips assumes no liability, express or implied, arising out of any unauthorized modification of design.

Servicer assumes all liability.

FOR PRODUCTS CONTAINING LASER:

DANGER-Invisible laser radiation when open. AVOID DIRECT EXPOSURE TO BEAM.

CAUTION-Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

CAUTION -The use of optical instruments with this product will increase eye hazard.

TO ENSURE THE CONTINUED RELIABILITY OF THIS PRODUCT, USE ONLY ORIGINAL MANUFACTURER'S REPLACEMENT PARTS, WHICH ARE LISTED WITH THEIR PART NUMBERS IN THE PARTS LIST SECTION OF THIS SERVICE MANUAL.

Take care during handling the LCD module with backlight unit

-Must mount the module using mounting holes arranged in four corners.

-Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.

-Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.

-Protect the module from the ESD as it may damage the electronic circuit (C-MOS).

-Make certain that treatment person’s body is grounded through wristband.

-Do not leave the module in high temperature and in areas of high humidity for a long time.

-Avoid contact with water as it may a short circuit within the module.

-If the surface of panel becomes dirty, please wipe it off with a soft material. (Cleaning with a dirty or rough cloth may damage the panel.)

1. Monitor Specifications

LCD PANEL	
• Type	TFT LCD
• Screen size	20" visual
• Pixel Pitch	0.258 x 0.258 mm
• LCD Panel type	1680x1050 pixels R.G.B. vertical stripe Anti-glare polarizer, hard coated
• Effective viewing area	433.4 x 270.9 mm
SCANNING	
• Vertical refresh rate	56 Hz-76 Hz
• Horizontal Frequency	30 kHz - 83 kHz
VIDEO	
• Video dot rate	165 MHz
• Input impedance	
- Video	75 ohm
- Sync	2.2K ohm
• Input signal levels	0.7 Vpp
• Sync input signal	Separate sync Composite sync Sync on green
• Sync polarities	Positive and negative

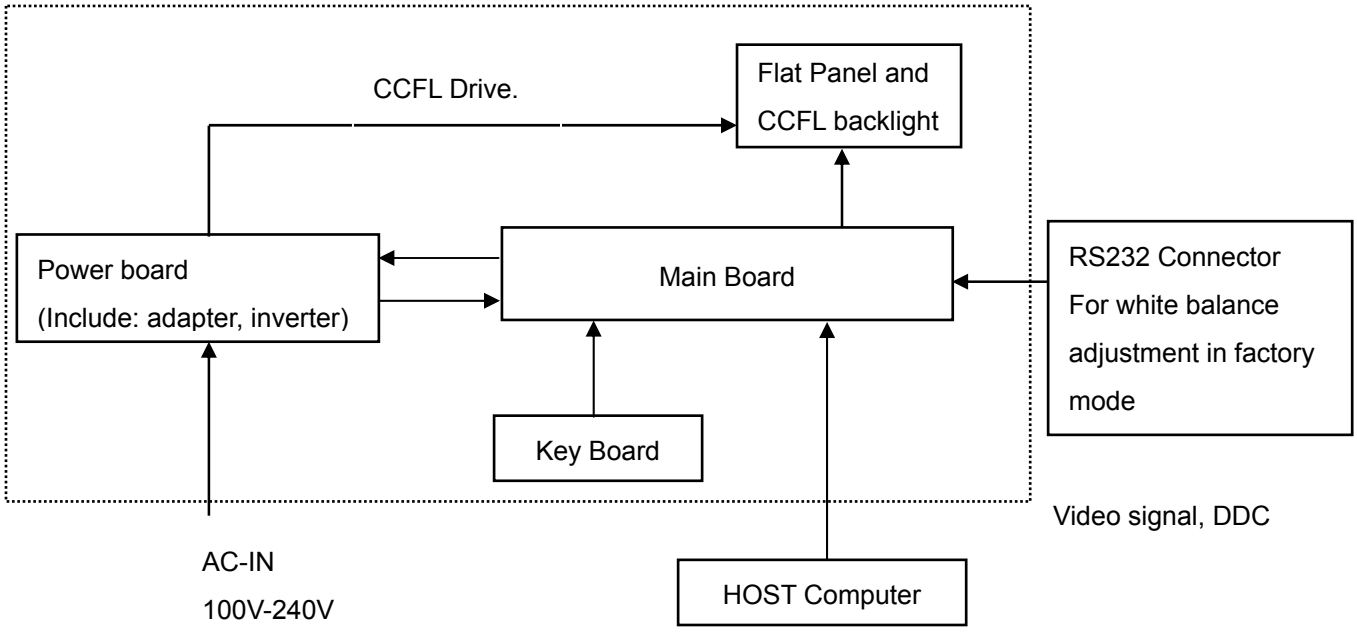
• Tilt	-5°+2/-0 ~+ 20°+3/-0
• Power supply	100 ~ 240 VAC, 50/60 Hz
• Power consumption	<50W* (typ.)
• Temperature	0° C to 40 ° C (operating) -20° C to 60° C (storage)
• Relative humidity	20% to 80%
• System MTBF	50K hours (CCFL 40K hours)

2. LCD Monitor Description

The LCD monitor will contain a main board, a power board and a key board which house the flat panel control logic, brightness control logic and DDC.

The power board will provide AC to DC Inverter voltage to drive the backlight of panel and the main board chips each voltage.

Monitor Block Diagram



3. Operating Instructions

3.1 General Instructions

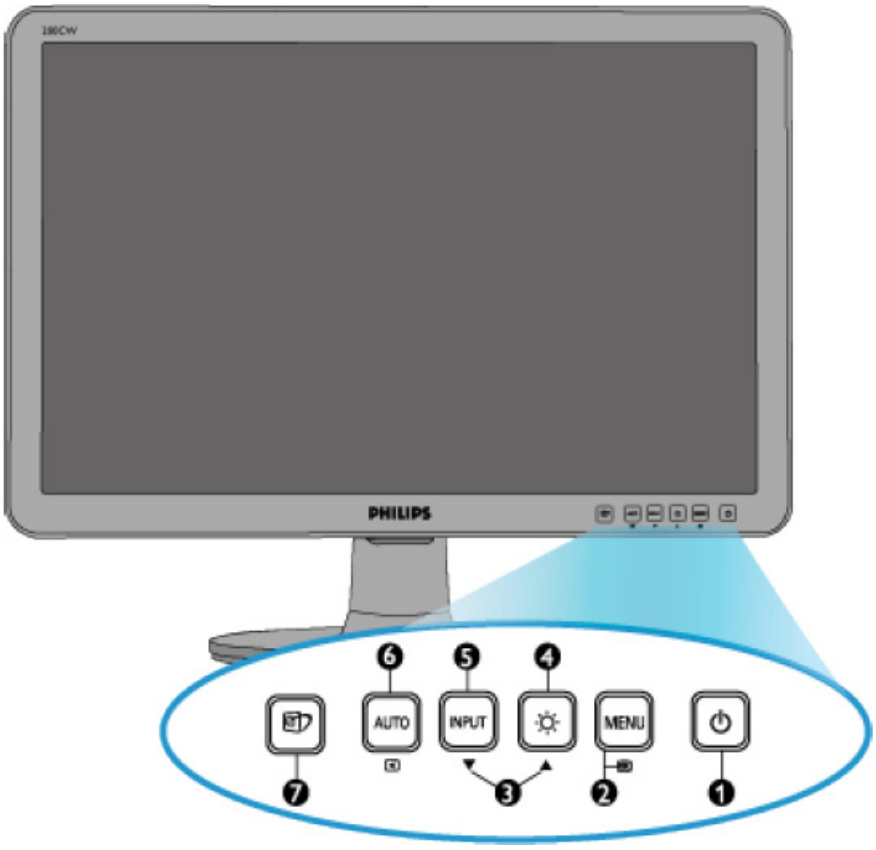
Press the power button to turn the monitor on or off. The other control buttons are located at the front of the panel of the monitor.

By changing these settings, the picture can be adjusted to your personal preferences.

- The power cord should be connected.
- Connect the video cable from the monitor to the video card.
- Press the power button to turn on the monitor, the power indicator will light up.

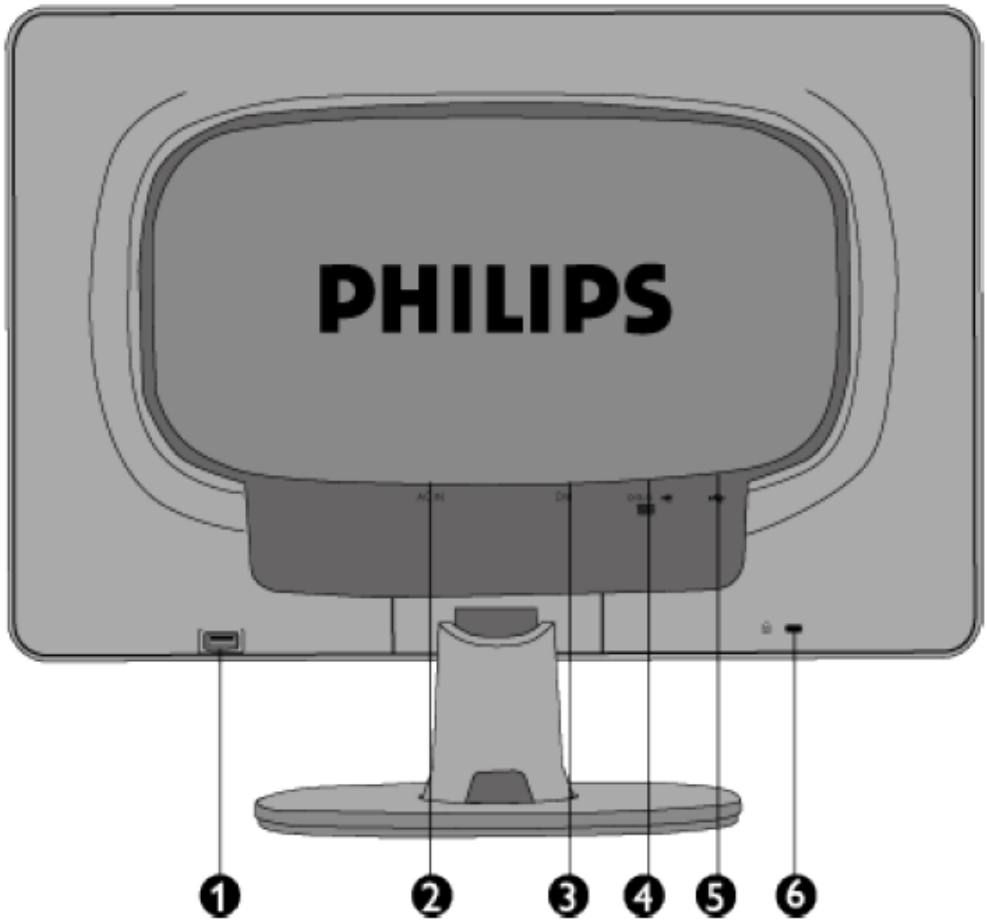
3.2 Control Buttons

Front View



1		To switch monitor's power On and Off
2	MENU/OK	To access OSD menu
3	▲▼	To adjust the OSD menu
4		To adjust brightness of the display
5	Input	To change the signal input source.
6	AUTO/◀	Automatically adjust the horizontal position, vertical position, phase and clock settings. Return to previous OSD level.
7		SmartImage: There are five modes to be selected: Office Work, Image Viewing, Entertainment, Economy, and Off.

Rear View

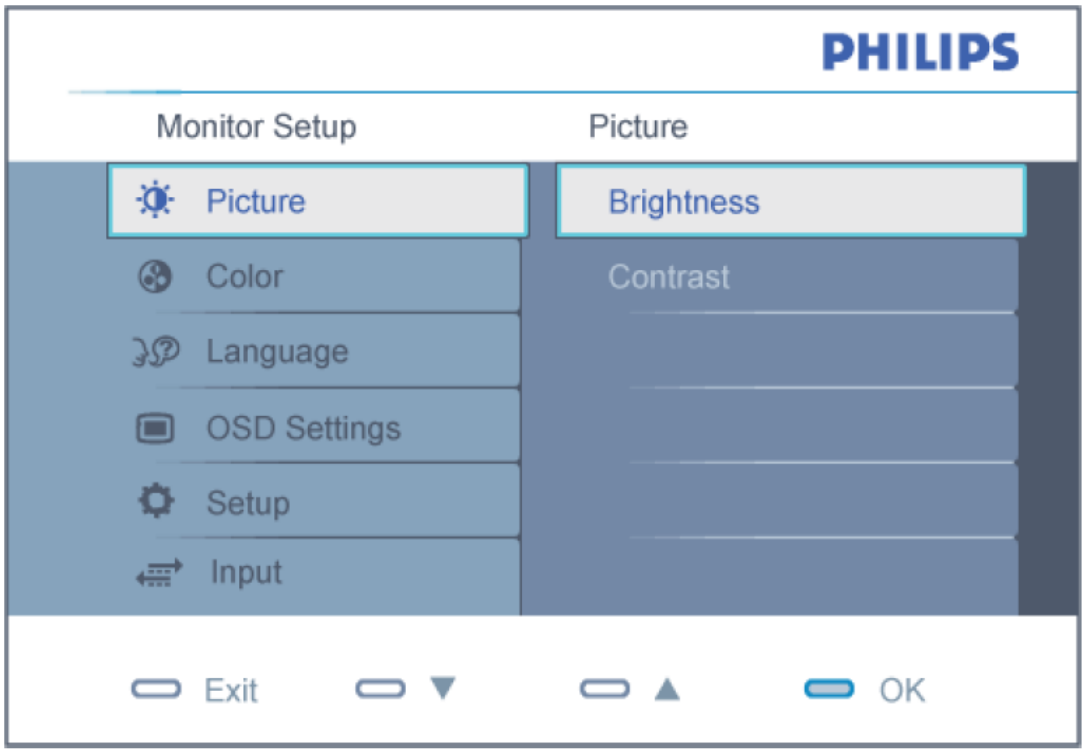


1	USB downstream port
2	AC power input
3	DVI-D input
4	VGA input
5	USB upstream port
6	Kensington anti-thief lock

3.3 Adjusting the Picture

Description of the On Screen Display

On-Screen Display (OSD) is a feature in all Philips LCD monitors. It allows an end user to adjust screen performance or select functions of the monitors directly through an on-screen instruction window. A user friendly on screen display interface is shown as below. In the OSD shown above users can press ◀▶ buttons at the front bezel of the monitor to move the cursor, OK to confirm the choice or change.



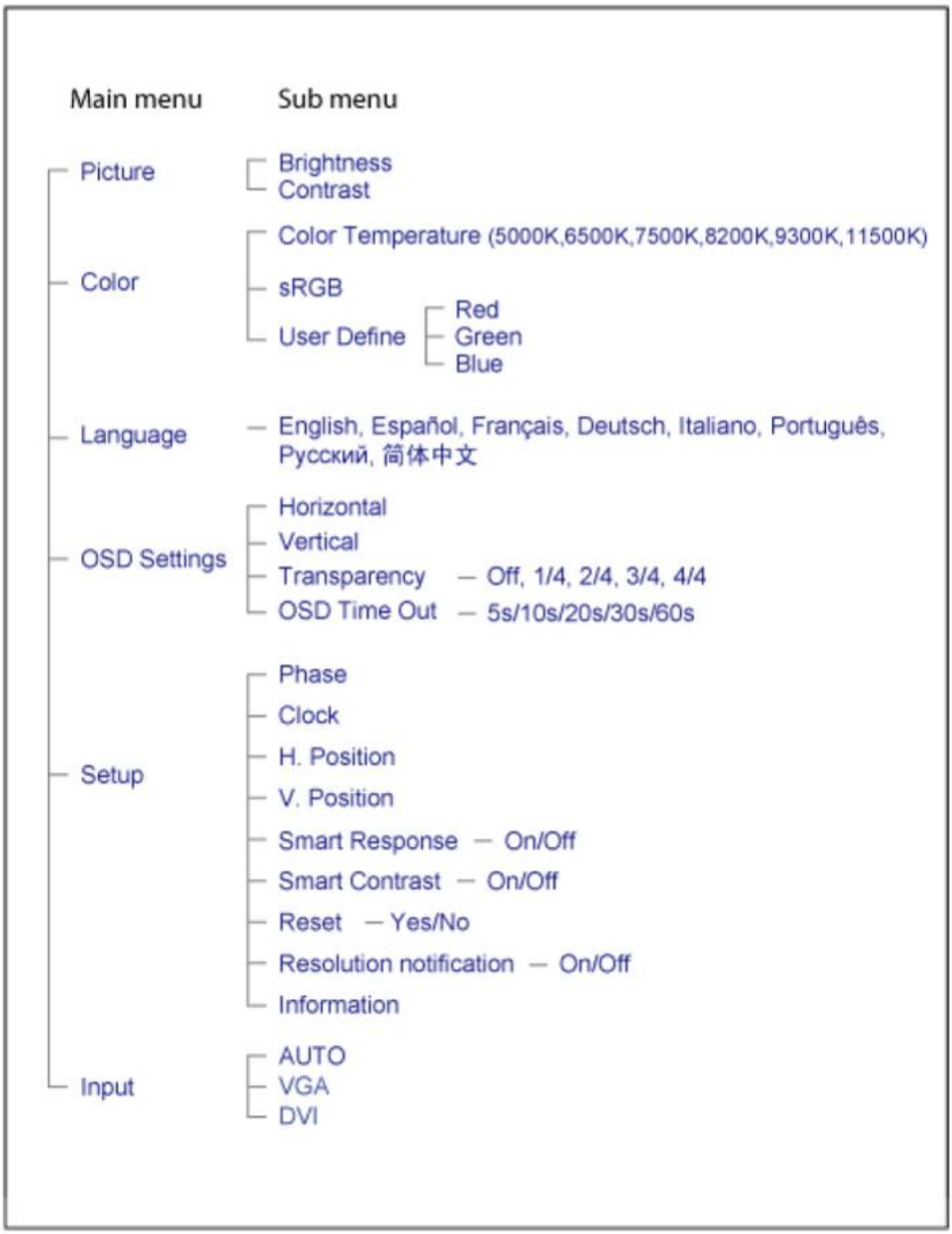
To Lock/Unlock OSD function (User Mode)

The OSD function can be locked by pressing “MENU” button for more than 10 seconds.

Locked OSD function can be released by pressing “MENU” button for more than 10 seconds again.

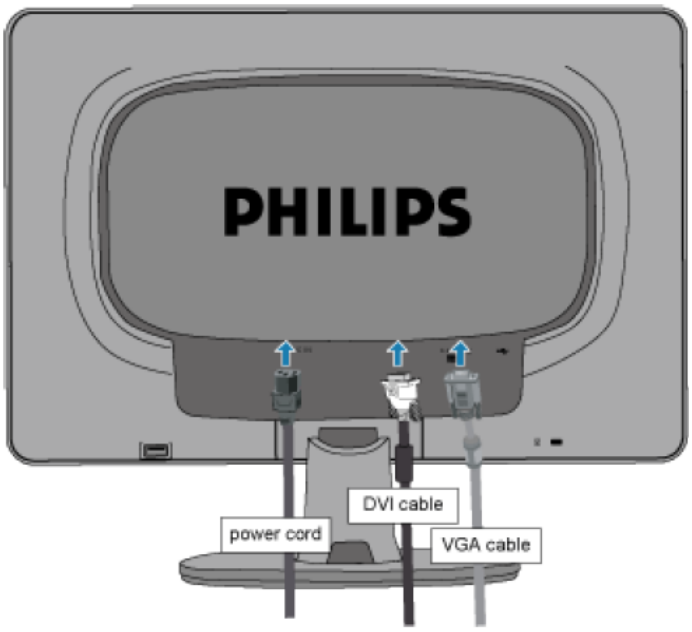
The OSD Tree

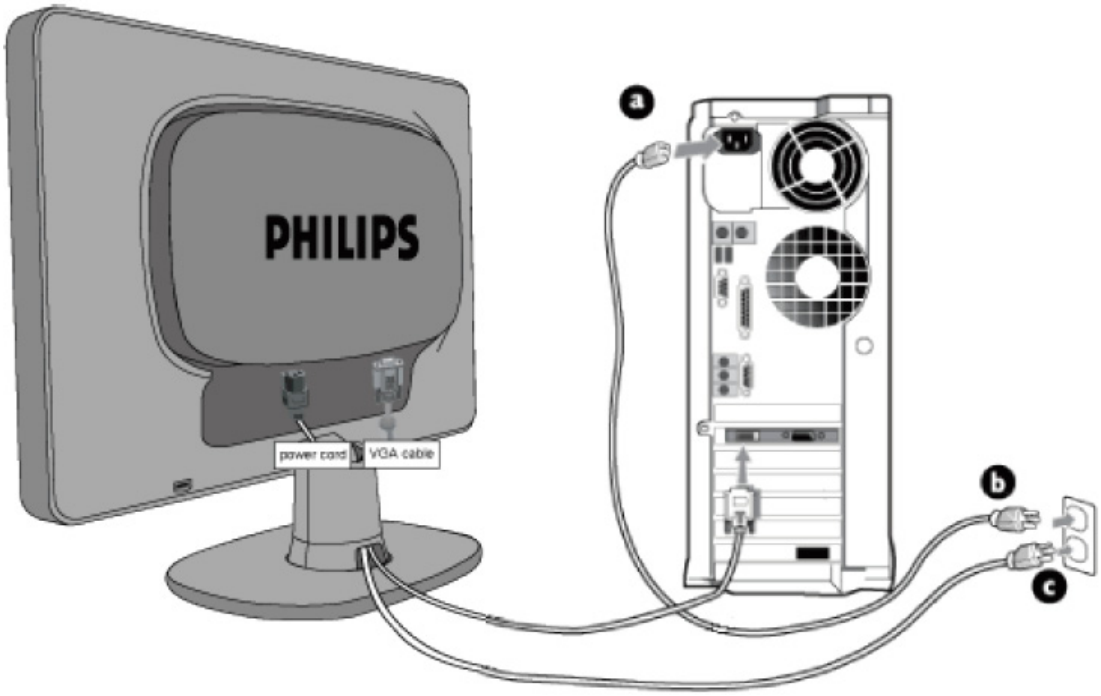
Below is an overall view of the structure of the On-Screen Display. You can use this as a reference when you want to work your way around the different adjustments later on.



3.4 Connecting to the PC

1) Connect the power cord to the back of the monitor firmly. (Philips has pre-connected VGA cable for the first installation.





2) Connect to PC

(a) Turn off your computer and unplug its power cable.

(b) Connect the monitor signal cable to the video connector on the back of your computer.

(c) Plug the power cord of your computer and your monitor into a nearby outlet.

(d) Turn on your computer and monitor. If the monitor displays an image, installation is complete.

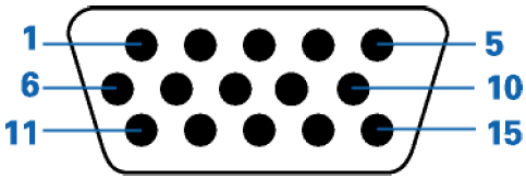
4. Input/ Output Specification

4.1 Input Signal Connector

Analog connectors

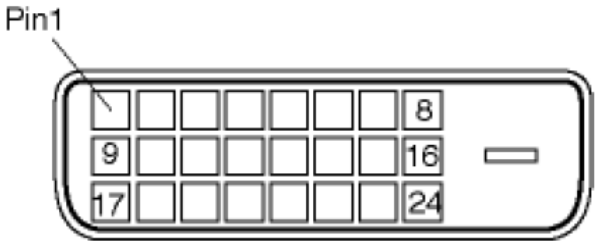
Pin No.	Description	Pin No.	Description
1.	Red video input	9.	+5V
2.	Green video input	10.	Logic Ground
3.	Blue video input	11.	Ground
4.	Sense (GND)	12.	Serial data line (SDA)
5.	Cable detect (GND)	13.	H. Sync
6.	Red video ground	14.	V. Sync
7.	Green video ground	15.	Data clock line (SCL)
8.	Blue video ground		

VGA connector layout



DVI connectors

Pin No.	Description	Pin No.	Description	Pin No.	Description
1.	T.M.D.S Data2-	9.	T.M.D.S Data1-	17.	T.M.D.S Data0-
2.	T.M.D.S Data2+	10.	T.M.D.S Data1+	18.	T.M.D.S Data0+
3.	T.M.D.S Data2/4 Shield	11.	T.M.D.S Data1/3 Shield	19.	T.M.D.S Data0/5 Shield
4.	No connector	12.	No connector	20.	No connector
5.	No connector	13.	No connector	21.	No connector
6.	DDC Clock	14.	+5V Power	22.	T.M.D.S Clock Shield
7.	DDC Data	15.	Ground (for +5V)	23.	T.M.D.S Clock+
8.	No connector	16.	Hot Plug Detection	24.	T.M.D.S Clock-



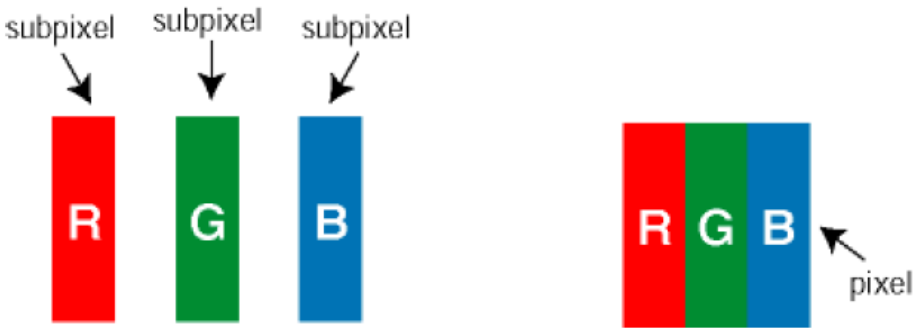
4.2 Factory Preset Display Modes

H. freq (kHz)	Resolution	V. freq (Hz)
31.469	720*400	70.087
31.469	640*480	59.940
35.000	640*480	67.000
37.500	640*480	75.000
37.879	800*600	60.317
46.875	800*600	75.000
49.700	832*624	75.000
48.363	1024*768	60.004
60.023	1024*768	75.029
63.981	1280*1024	60.020
79.976	1280*1024	75.025
55.935	1440*900	59.887
70.635	1440*900	74.984
65.290	1680*1050	60.000

4.3 Pixel Defect Policy

Philips' Flat Panel Monitors Pixel Defect Policy

Philips strives to deliver the highest quality products. We use some of the industry's most advanced manufacturing processes and practice stringent quality control. However, pixel or sub pixel defects on the TFT LCD panels used in flat panel monitors are sometimes unavoidable. No manufacturer can guarantee that all panels will be free from pixel defects, but Philips guarantees that any monitor with an unacceptable number of defects will be repaired or replaced under warranty. This notice explains the different types of pixel defects and defines acceptable defect levels for each type. In order to qualify for repair or replacement under warranty, the number of pixel defects on a TFT LCD panel must exceed these acceptable levels. For example, no more than 0.0004% of the sub pixels on a 20" XGA monitor may be defective. Furthermore, Philips sets even higher quality standards for certain types or combinations of pixel defects that are more noticeable than others. This policy is valid worldwide.



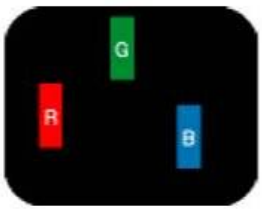
Pixels and Sub pixels

A pixel, or picture element, is composed of three sub pixels in the primary colors of red, green and blue. Many pixels together form an image. When all sub pixels of a pixel are lit, the three colored sub pixels together appear as a single white pixel. When all are dark, the three colored sub pixels together appear as a single black pixel. Other combinations of lit and dark sub pixels appear as single pixels of other colors.

Types of Pixel Defects

Pixel and sub pixel defects appear on the screen in different ways. There are two categories of pixel defects and several types of sub pixel defects within each category.

Bright Dot Defects Bright dot defects appear as pixels or sub pixels that are always lit or 'on'. That is, a *bright dot* is a sub-pixel that stands out on the screen when the monitor displays a dark pattern. There are the types of bright dot defects:



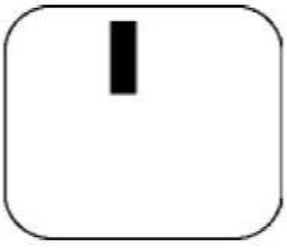
One lit red, green or blue sub pixel

Two adjacent lit sub pixels:
- Red + Blue = Purple
- Red + Green = Yellow
- Green + Blue = Cyan (Light Blue)

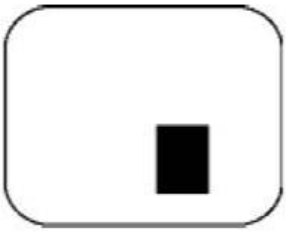
Three adjacent lit sub pixels (one white pixel)

A red or blue *bright dot* must be more than 50 percent brighter than neighboring dots while a green bright dot is 30 percent brighter than neighboring dots.

Black Dot Defects Black dot defects appear as pixels or sub pixels that are always dark or 'off'. That is, a *dark dot* is a sub-pixel that stands out on the screen when the monitor displays a light pattern. These are the types of black dot defects:



One dark sub pixel



Two or three adjacent dark sub pixels

Proximity of Pixel Defects

Because pixel and sub pixels defects of the same type that are near to one another may be more noticeable, Philips also specifies tolerances for the proximity of pixel defects.

Pixel Defect Tolerances

In order to qualify for repair or replacement due to pixel defects during the warranty period, a TFT LCD panel in a Philips flat panel monitor must have pixel or sub pixel defects exceeding the tolerances listed in the following tables.

BRIGHT DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	**200CW8**
1 lit subpixel	3 or fewer
2 adjacent lit subpixels	1 or fewer
3 adjacent lit subpixels (one white pixel)	0
Distance between two bright dot defects*	>15mm
Total bright dot defects of all types	3 or fewer

BLACK DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	**200CW8**
1 dark subpixel	5 or fewer
2 adjacent dark subpixels	2 or fewer
3 adjacent dark subpixels	0
Distance between two black dot defects*	>15mm
Total black dot defects of all types	5 or fewer

TOTAL DOT DEFECTS	ACCEPTABLE LEVEL
MODEL	**200CW8**
Total bright or black dot defects of all types	5 or fewer

Note:

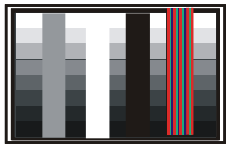
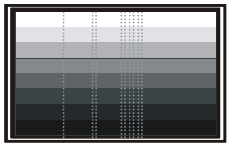
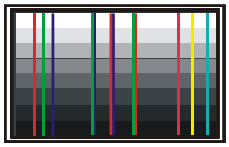
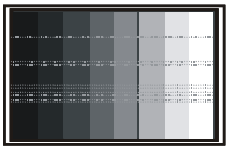
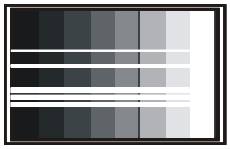
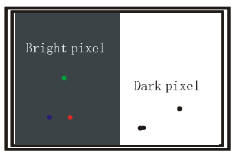
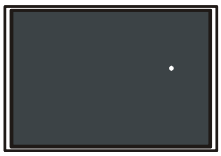
** 1 or 2 adjacent sub pixel defects = 1 dot defect*

Your Philips monitor is ISO13406-2 Compliant

4.4 Failure Mode Of Panel

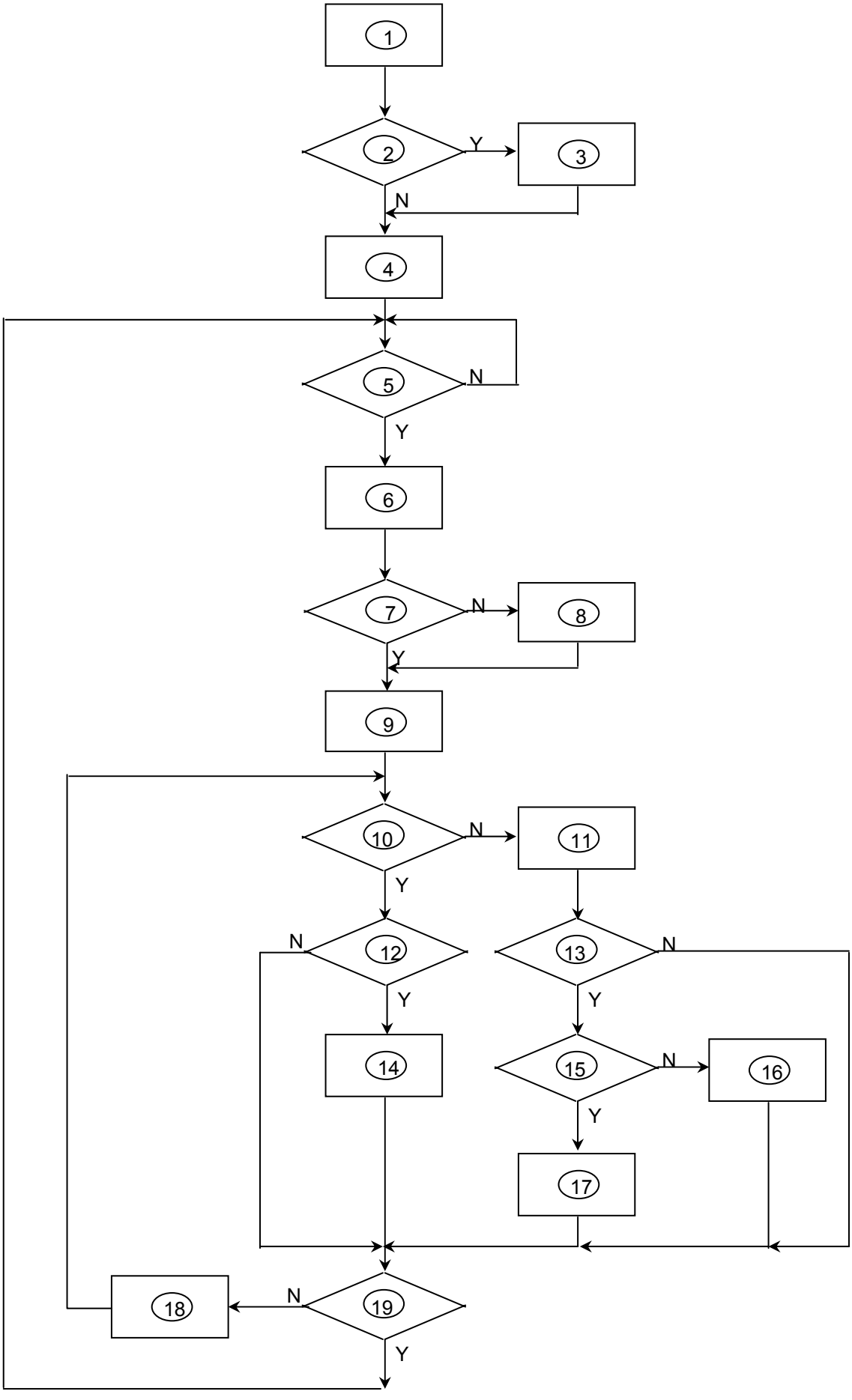
Quick reference for failure mode of LCD panel

this page presents problems that could be made by LCD panel.
It is not necessary to repair circuit board. Simply follow the mechanical instruction on this manual to eliminate failure by replace LCD panel.

Failure description	Phenomenon
Vertical block defect	
Vertical dim lines	
Vertical lines defect (Always bright or dark)	
Horizontal block defect	
Horizontal dim lines	
Horizontal lines defect (Always bright or dark)	
Has bright or dark pixel	
Polarizer has bubbles	
Polarizer has bubbles	
Foreign material inside polarizer. It shows liner or dot shape.	
Concentric circle formed	
Bottom back light of LCD is brighter than normal	
Back light un-uniformity	
Backlight has foreign material. Black or white color, liner or circular type	

5. Block Diagram

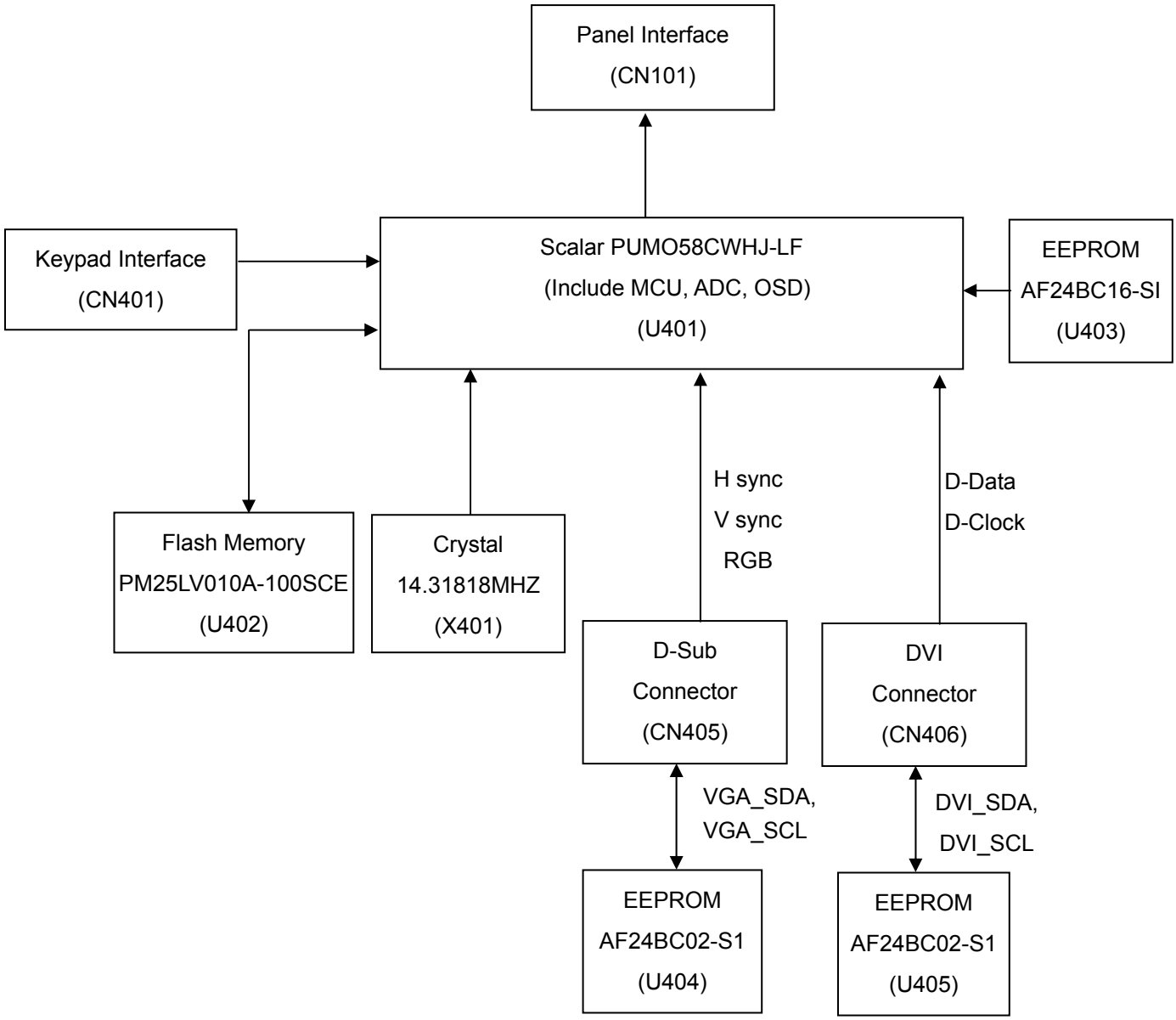
5.1 Software Flow Chat



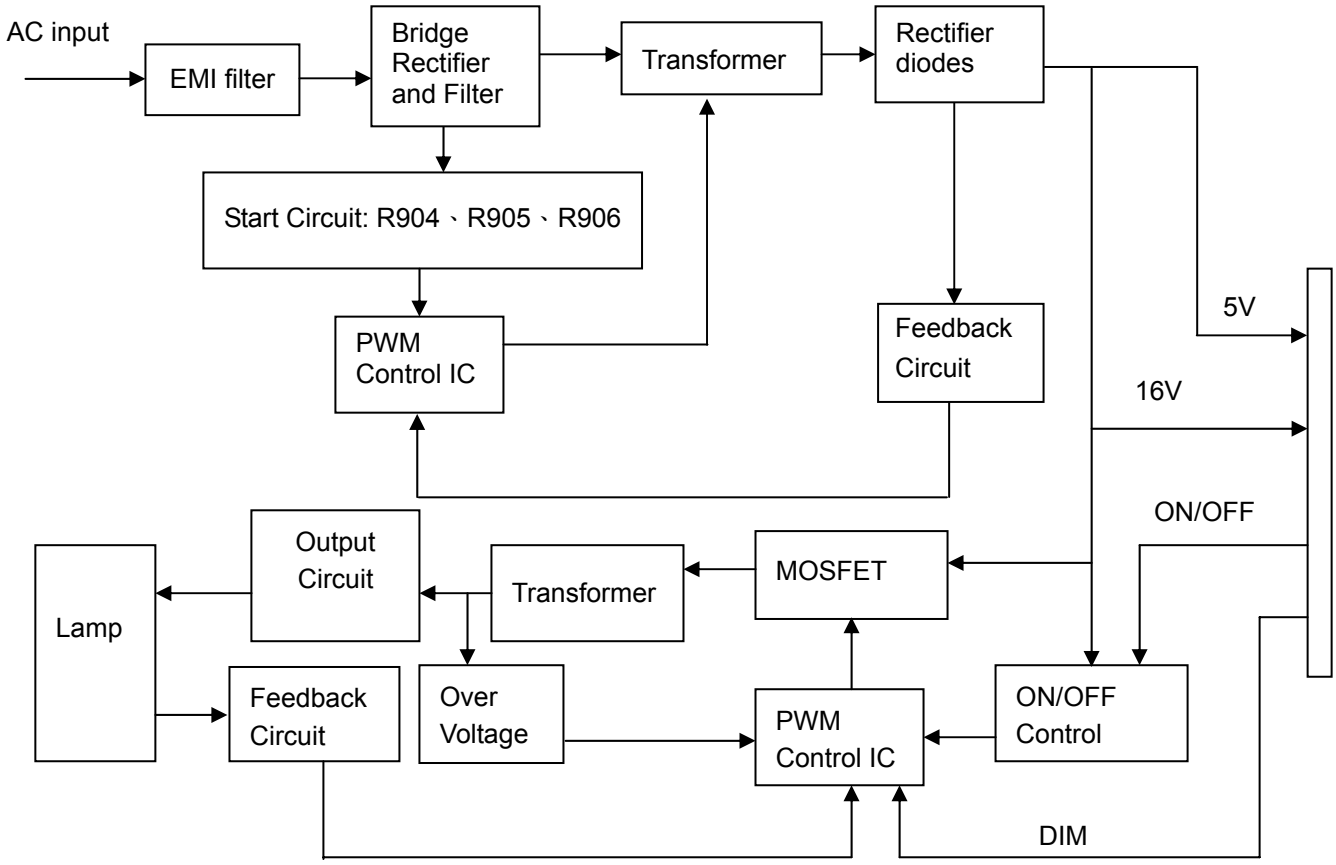
1) MCU initialize.
2) Is the EPROM blank?
3) Program the EPROM by default values.
4) Get the PWM value of brightness from EPROM.
5) Is the power key pressed?
6) Clear all global flags.
7) Are the AUTO and SELECT keys pressed?
8) Enter factory mode.
9) Save the power key status into EPROM. Turn on the LED and set it to green color. Scalar initializes.
10) In standby mode?
11) Update the lifetime of back light.
12) Check the analog port, are there any signals coming?
13) Does the scalar send out an interrupt request?
14) Wake up the scalar.
15) Are there any signals coming from analog port?
16) Display "No connection Check Signal Cable" message. And go into standby mode after the message disappear.
17) Program the scalar to be able to show the coming mode.
18) Process the OSD display.
19) Read the keyboard. Is the power key pressed?

5.2 Electrical Block Diagram

5.2.1 Main Board



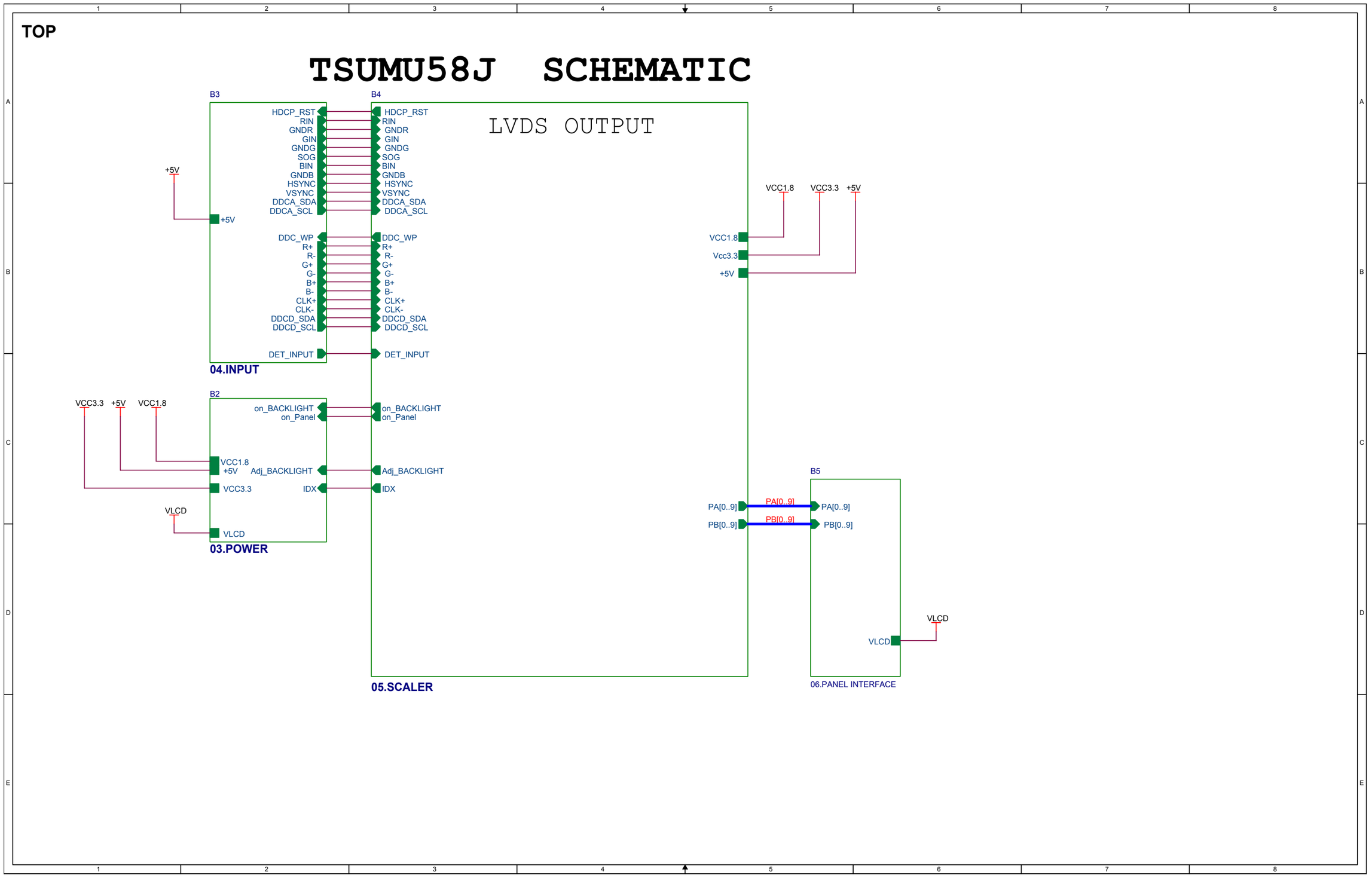
5.2.2 Inverter/Power Board



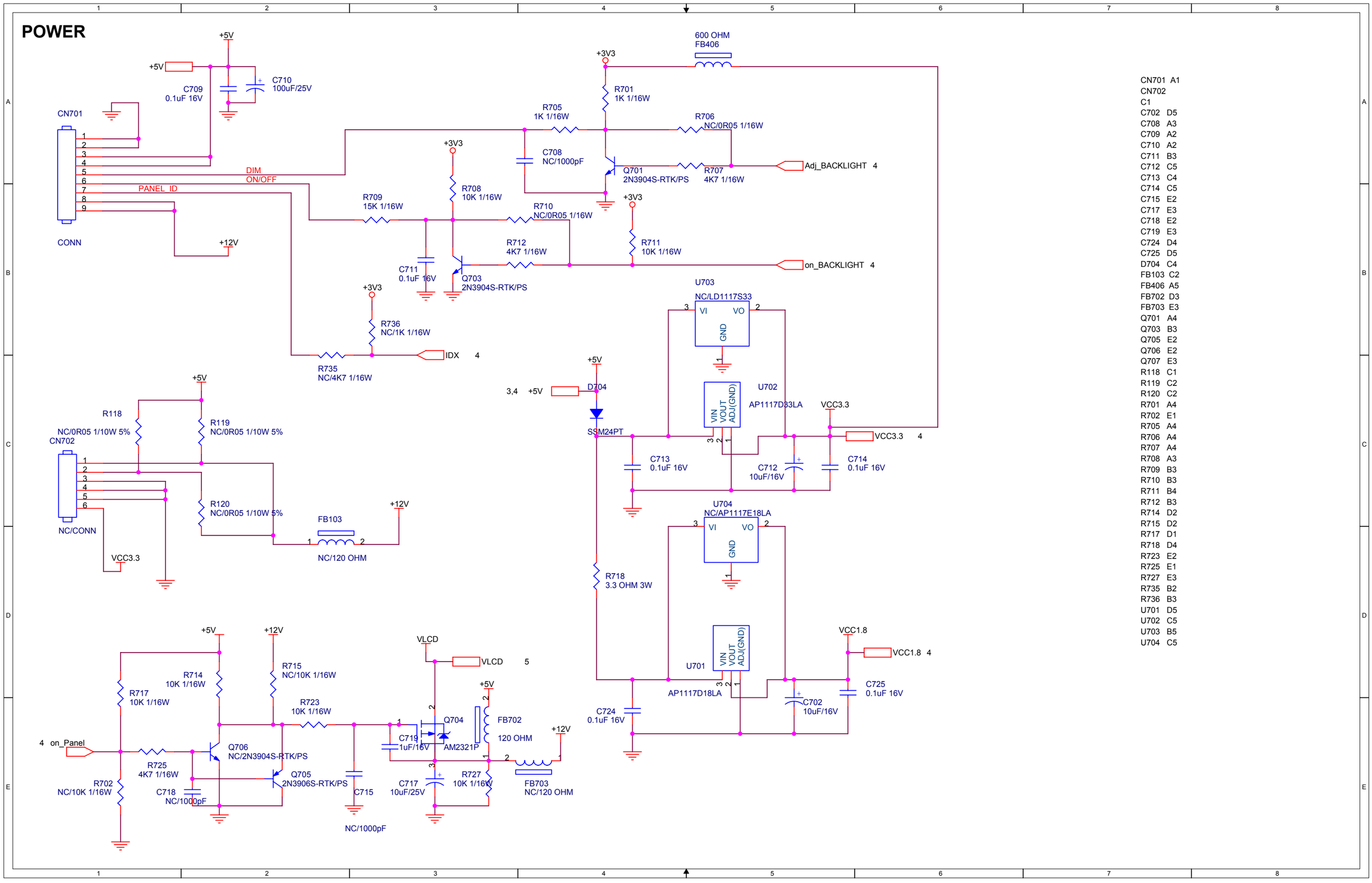
6. Schematic

6.1 Main Board

715G2592-1



POWER



CN701 A1
CN702
C1
C702 D5
C708 A3
C709 A2
C710 A2
C711 B3
C712 C5
C713 C4
C714 C5
C715 E2
C717 E3
C718 E2
C719 E3
C724 D4
C725 D5
D704 C4
FB103 C2
FB406 A5
FB702 D3
FB703 E3
Q701 A4
Q703 B3
Q705 E2
Q706 E2
Q707 E3
R118 C1
R119 C2
R120 C2
R701 A4
R702 E1
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R706 A4
R707 A4
R708 A3
R709 B3
R710 B3
R711 B4
R712 B3
R714 D2
R715 D2
R717 D1
R718 D4
R723 E2
R725 E1
R727 E3
R735 B2
R736 B3
U701 D5
U702 C5
U703 B5
U704 C5

INPUT

CN405 DB15
RED+ RED- GREEN+ GREEN- BLUE+ BLUE-
PC5V PC5V VGA_CON

FB410 30 OHM
FB411 30 OHM
FB412 30 OHM

R438 75R 1/16W
R439 75R 1/16W
R440 75R 1/16W

R434 56 OHM 1/16W C432 0.047uF RIN 4
R435 56 OHM 1/16W C433 0.047uF GIN 4
R436 56 OHM 1/16W C434 0.047uF BIN 4
R437 470R 1/16W C435 1000pF SOG 4

R441 100R 1/16W C436 0.047uF GNDR 4
R442 100R 1/16W C437 0.047uF GNDG 4
R443 100R 1/16W C438 0.047uF GNDB 4

D403 D404 D405 BAV99 ESD_5V
D406 RLZ5.6B
C439 0.047uF C440 0.047uF C441 0.047uF

+5V R444 2,4
DET_VGA R445 100R 1/16W DET_INPUT 4
DET_DVI R458 100R 1/16W

HSI FB409 120 OHM R446 1K 1/16W HSYNC 4
VSI R447 1K 1/16W VSYNC 4

D408 RLZ5.6B D409 RLZ5.6B
R448 2K2 1/16W C442 22pF
R449 2K2 1/16W C443 220pF
D410 RLZ5.6B

SCL_VGA R453 100R 1/16W
SDA_VGA R454 100R 1/16W
4 DDCA_SDA
4 DDCA_SCL

+5V PC5V D407 BAV70
R452 10K 1/16W
R450 4K7 1/16W 5%
R451 4K7 1/16W 5%
U404 VCC A0 WP A1 SCL A2 SDA VSS
AF24BC02-SI
C444 0.22UF 10V
DDC_WP 4

R471 10K 1/16W
D411 RLZ5.6B D412 RLZ5.6B

CN406
VSYNC SYNC GND DDC SCL DDC SDA +5V HPD
SCL_DVI SDA_DVI DVI5V HPD
DET_DVI
R455 100R 1/16W
R456 100R 1/16W
DVI5V
R457 10K 1/16W 5%
Q406 NC/2N3904S-RTK/PS
R401 NC/4K7 1/16W HDCP_RST 4

+5V DVI5V D413 BAV70
R461 4K7 1/16W 5%
R459 4K7 1/16W 5%
R460 10K 1/16W
U405 VCC A0 WP A1 SCL A2 SDA VSS
AF24BC02-SI
C446 0.22UF 10V
4 DDCD_SDA
4 DDCD_SCL
DDC_WP 4
R473 NC/0R05 1/16W

1/3shield 2/4shield 0/5shield clk shield
R472 NC/0R05 1/16W
D426 D414 D415 D416 RLZ5.6B
C445 0.1uF 16V

DAT0+ DAT0- DAT1+ DAT1- DAT2+ DAT2- DAT3+ DAT3- DAT4+ DAT4- DAT5+ clk+ clk-
R462 10R 1/16W B+ 4
R463 10R 1/16W B- 4
R464 10R 1/16W G+ 4
R465 10R 1/16W G- 4
R466 10R 1/16W R+ 4
R467 10R 1/16W R- 4

DCLK+ DCLK-
R468 10R 1/16W CLK+ 4
R469 10R 1/16W CLK- 4

JACK

D417 D418 D419 D420 D421 D422 D423 D424 BAV99
C447 C448 C449 C450 C451 C452 C453 C454 0.1uF 16V

+5V R470 1K 1/16W
ESD_5V
D425 RLZ5.6B

CN405 A1 CN406 C1
C432 A5 C433 A5
C434 A5 C435 A5
C436 A5 C437 A5
C438 A5 C439 B2
C440 B2 C441 B3
C442 B3 C443 B4
C444 B7 C445 C4
C446 C7 C447 D2
C448 D2 C449 D2
C450 D3 C451 D3
C452 D3 C453 D4
C454 D4 D403 A2
D404 A2 D405 A3
D406 A2 D407 B7
D408 B1 D409 B2
D410 B4 D411 C4
D412 C4 D413 C7
D414 C2 D415 C3
D416 C3 D417 D2
D418 D2 D419 D2
D420 D2 D421 D3
D422 D3 D423 D3
D424 D4 D425 D5
D426 C2 FB409 B2
FB410 A3 FB411 A3
FB412 A3 Q406 C4
R401 C5 R434 A4
R435 A4 R436 A4
R437 A4 R438 A3
R439 A4 R440 A4
R441 A4 R442 A4
R443 A4 R444 B4
R445 B5 R446 B3
R447 B4 R448 B3
R449 B3 R450 B6
R451 B6 R452 B7
R453 B6 R454 B6
R455 C3 R456 C3
R457 C4 R458 B5
R459 C6 R460 C6
R461 C7 R462 C4
R463 C4 R464 C4
R465 C4 R466 D4
R467 D4 R468 D4
R469 D4 R470 D5
R471 C2 R472 C2
R473 D7 U404 B7

SCALER

PUMO58CWHJ-LF

LVDS

Unused Components

For HDCP

Reset Circuit

CN401	E5	CN407	E7
C401	B2	C402	A8
C403	A7	C404	A7
C405	A7	C406	A7
C407	B7	C408	A6
C409	A7	C410	A7
C411	A7	C412	A7
C413	A7	C414	B7
C415	B7	C416	A5
C417	B1	C418	C1
C419	A7	C420	A7
C421	B7	C422	B5
C423	B7	C424	D6
C425	C5	C426	D7
C427	D7	C428	D7
C429	D7	C430	D8
C455	A5	C456	C2
C457	C3	C458	C3
C459	C3	C460	C4
C461	A7	C464	A5
C470	E2	FB401	A7
FB402	B7	FB403	A6
FB404	A5	FB405	A5
OC1	E4	Q401	C5
Q402	B6	Q403	C6
Q409	D6	R403	B2
R404	C1	R405	B5
R406	B5	R407	C1
R408	C6	R409	C6
R411	C3	R413	B5
R414	B5	R415	D2
R418	C3	R419	C6
R420	C3	R421	C5
R422	C3	R423	C3
R424	C4	R425	C4
R426	C4	R427	C4
R428	C4	R429	C4
R474	D8	R475	D7
R476	E2	R477	E2
R478	E3	R479	E2
R480	E2	R481	E2
R482	E3	R486	B1
R487	C1	R488	B4
R489	A1	R490	A1
R491	D4	R492	D4
R493	D6	R494	D6
R495	D6	R496	D4
R497	E5	R499	D4
R501	B7	R502	B7
U401	A2	U402	B1
U403	C5	U406	D1
U408	E1	X401	B7

4 PA[0..9] PA[0..9]

PA0 LVA3P
PA1 LVA3M
PA2 LVACKP
PA3 LVACKM
PA4 LVA2P
PA5 LVA2M
PA6 LVA1P
PA7 LVA1M
PA8 LVA0P
PA9 LVA0M

4 PB[0..9] PB[0..9]

PB0 LVB3P
PB1 LVB3M
PB2 LVBCKP
PB3 LVBCKM
PB4 LVB2P
PB5 LVB2M
PB6 LVB1P
PB7 LVB1M
PB8 LVB0P
PB9 LVB0M

VLCD

VLCD 2

2

FB701
120 OHM

1

C720
4.7uF/50V

R720
220 OHM 1/4W

R719
220 OHM 1/4W

C721
0.1uF 16V

CN101

LVB0M RXO0- 30
LVB0P RXO0+ 29
LVB1M RXO1- 28
LVB1P RXO1+ 27
LVB2M RXO2- 26
LVB2P RXO2+ 25
24
LVBCKM RXOC- 23
LVBCKP RXOC+ 22
LVB3M RXO3- 21
LVB3P RXO3+ 20
LVA0M RXE0- 19
LVA0P RXE0+ 18
17
LVA1M RXE1- 16
LVA1P RXE1+ 15
14
LVA2M RXE2- 13
LVA2P RXE2+ 12
LVACKM RXEC- 11
LVACKP RXEC+ 10
LVA3M RXE3- 9
LVA3P RXE3+ 8
7
6
5
4
3
2
1

R734 NC/0R05 1/16W

R733 NC/0R05 1/16W

R732 NC/0R05 1/16W

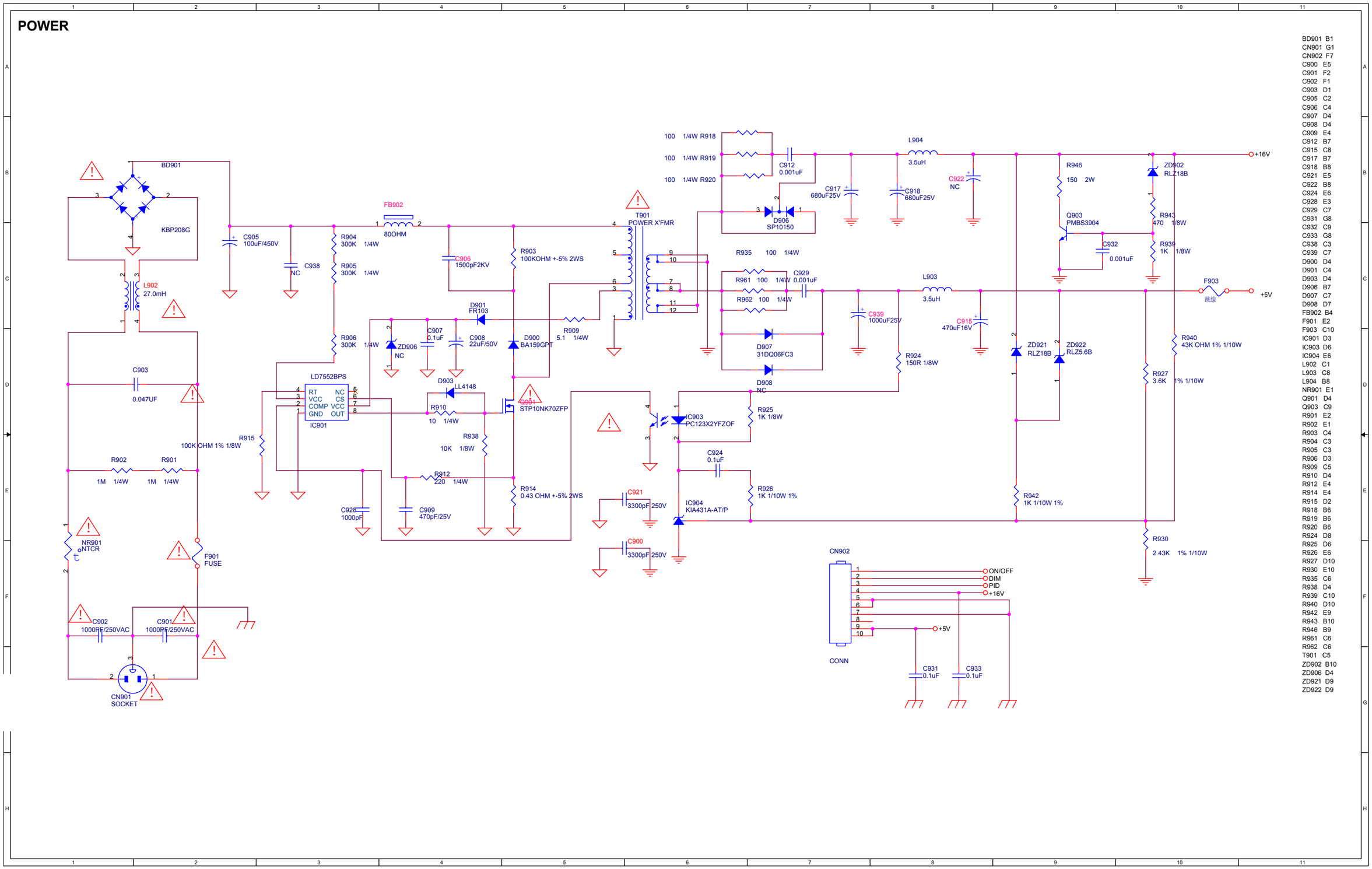
CONN

CN101 A4
C720 C1
C721 C2
FB701 C1
R719 C2
R720 C1
R732 C4
R733 C3
R734 C3

Panel Interface

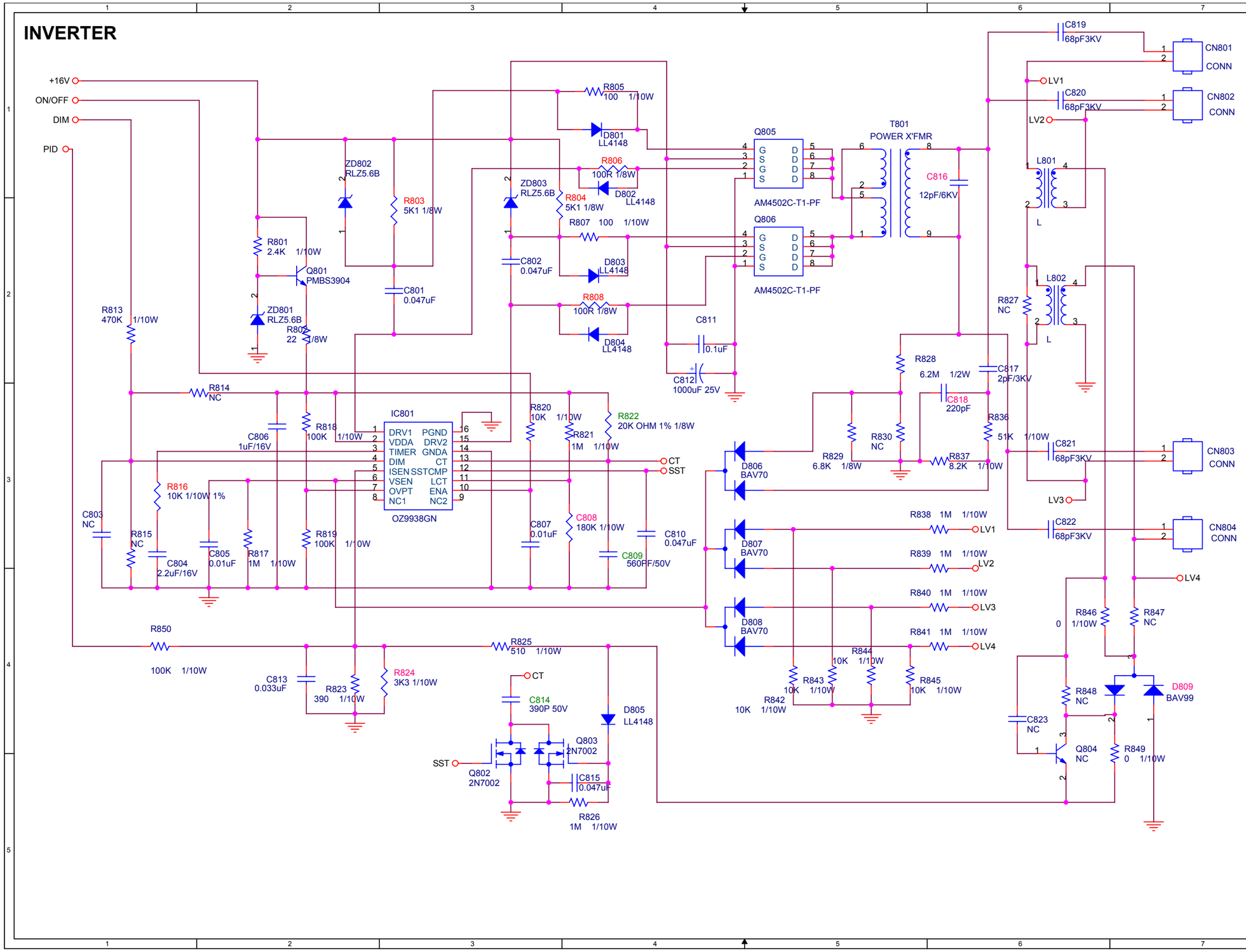
6.2 Power Board

715G2621-1



BD901 B1
CN901 G1
CN902 F7
C900 E5
C901 F2
C902 F1
C903 D1
C905 C2
C906 C4
C907 D4
C908 D4
C909 E4
C912 B7
C915 C8
C917 B7
C918 B8
C921 E5
C922 B8
C924 E6
C928 E3
C929 C7
C931 G8
C932 C9
C933 G8
C938 C3
C939 C7
D900 D4
D901 C4
D903 D4
D906 B7
D907 C7
D908 D7
FB902 B4
F901 E2
F903 C10
IC901 D3
IC903 D6
IC904 E6
L902 C1
L903 C8
L904 B8
NR901 E1
Q901 D4
Q903 C9
R901 E2
R902 E1
R903 C4
R904 C3
R905 C3
R906 D3
R909 C5
R910 D4
R912 E4
R914 E4
R915 D2
R918 B6
R919 B6
R920 B6
R924 D8
R925 D6
R926 E6
R927 D10
R930 E10
R935 C6
R938 D4
R939 C10
R940 D10
R942 E9
R943 B10
R946 B9
R961 C6
R962 C6
T901 C5
ZD902 B10
ZD906 D4
ZD921 D9
ZD922 D9

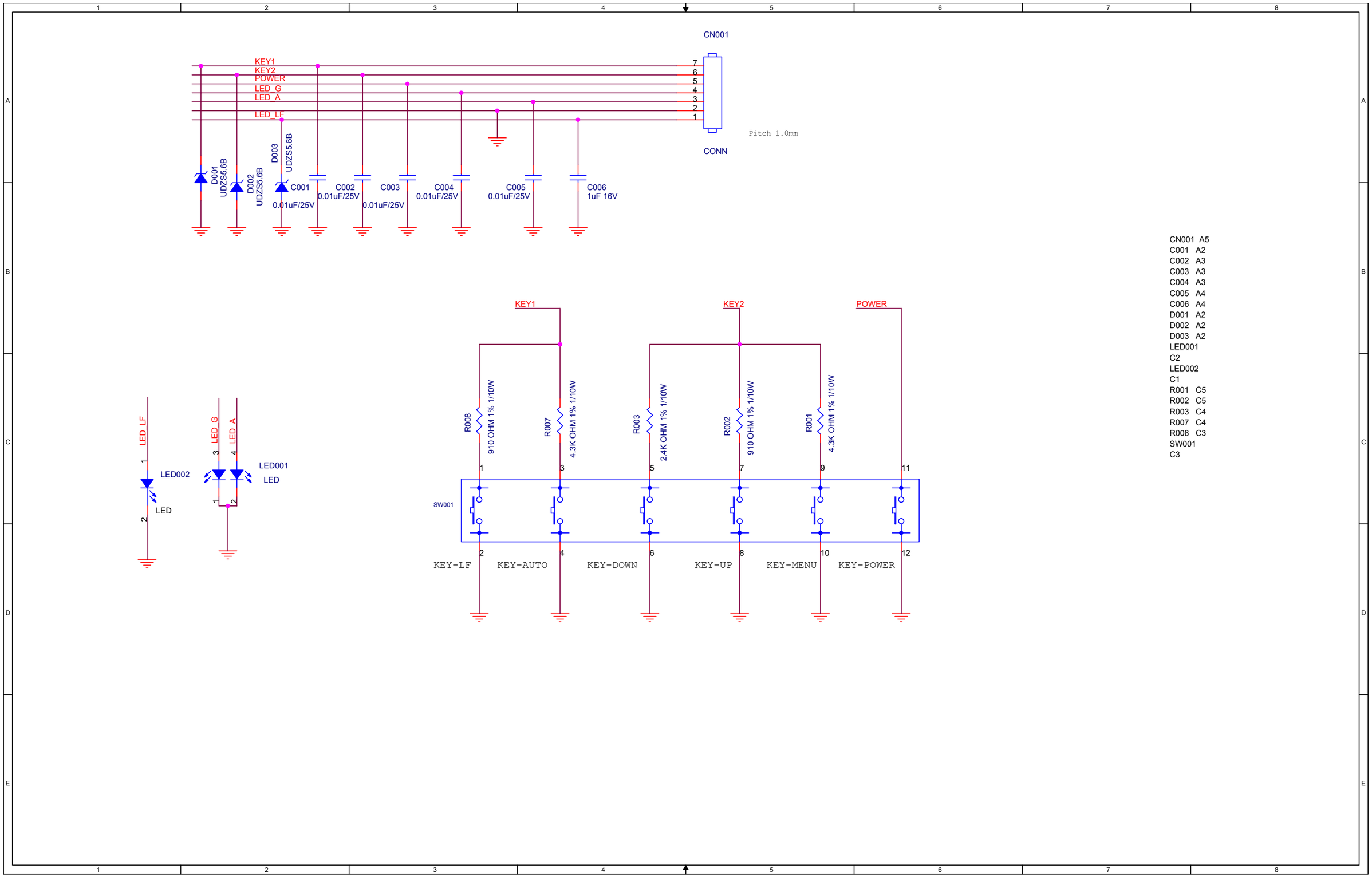
INVERTER



CN801 A7 CN802 A7
CN803 C7 CN804 C7
C801 B3 C802 B3
C803 C1 C804 C1
C805 C2 C806 C2
C807 C3 C808 C3
C809 C4 C810 C4
C811 B4 C812 B4
C813 D2 C814 D3
C815 E4 C816 A6
C817 B6 C818 B6
C819 A6 C820 A6
C821 C6 C822 C6
C823 D6 D801 A4
D802 A4 D803 B4
D804 B4 D805 D4
D806 C4 D807 C4
D808 D4 D809 D6
IC801 C3 L801 A6
L802 B6 Q801 B2
Q802 D3 Q803 D3
Q804 D6 Q805 A5
Q806 B5 R801 B2
R802 B2 R803 A3
R804 A3 R805 A4
R806 A4 R807 B4
R808 B4 R813 B1
R814 B1 R815 C1
R816 C1 R817 C2
R818 C2 R819 C2
R820 C3 R821 C3
R822 C4 R823 D2
R824 D2 R825 D3
R826 E4 R827 B6
R828 B5 R829 C5
R830 C5 R836 C6
R837 C5 R838 C5
R839 C5 R840 D5
R841 D5 R842 D5
R843 D5 R844 D5
R845 D5 R846 D6
R847 D7 R848 D6
R849 D6 R850 D1
T801 A5 ZD801 B2
ZD802 A2 ZD803 A3

6.3 Key Board

715G2844-1

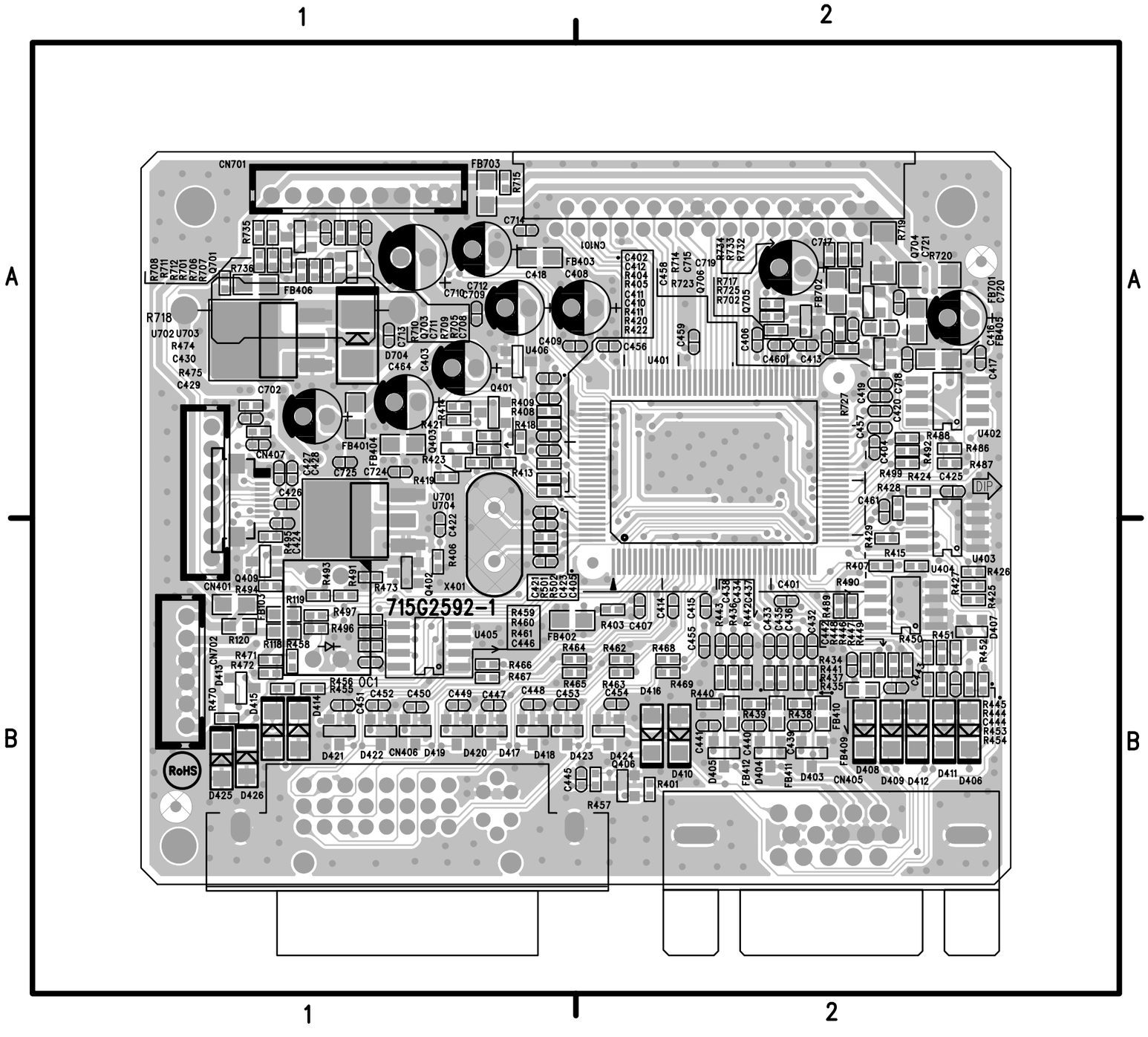


CN001 A5
C001 A2
C002 A3
C003 A3
C004 A3
C005 A4
C006 A4
D001 A2
D002 A2
D003 A2
LED001
C2
LED002
C1
R001 C5
R002 C5
R003 C4
R007 C4
R008 C3
SW001
C3

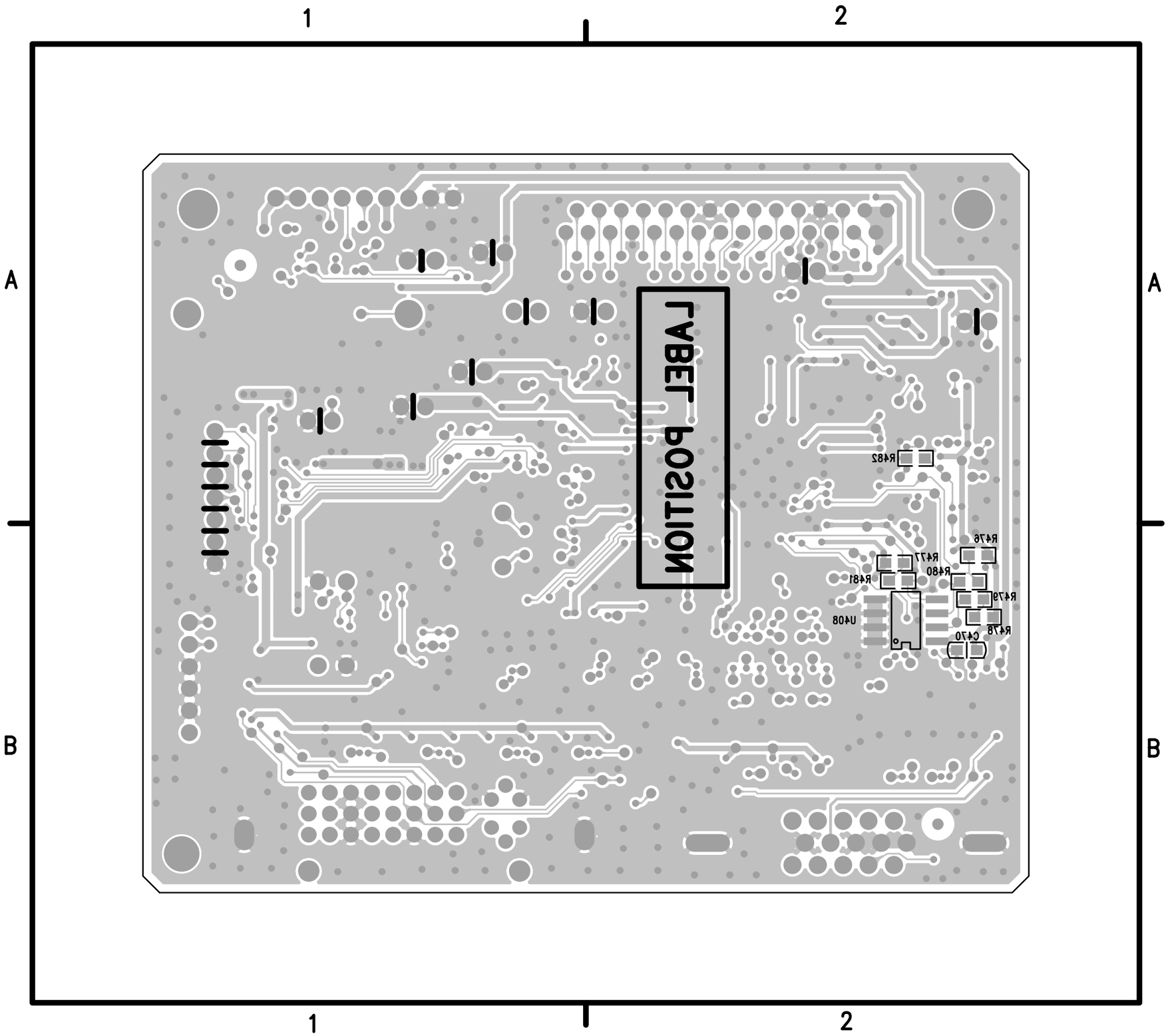
7. PCB Layout

7.1 Main Board

715G2592-1



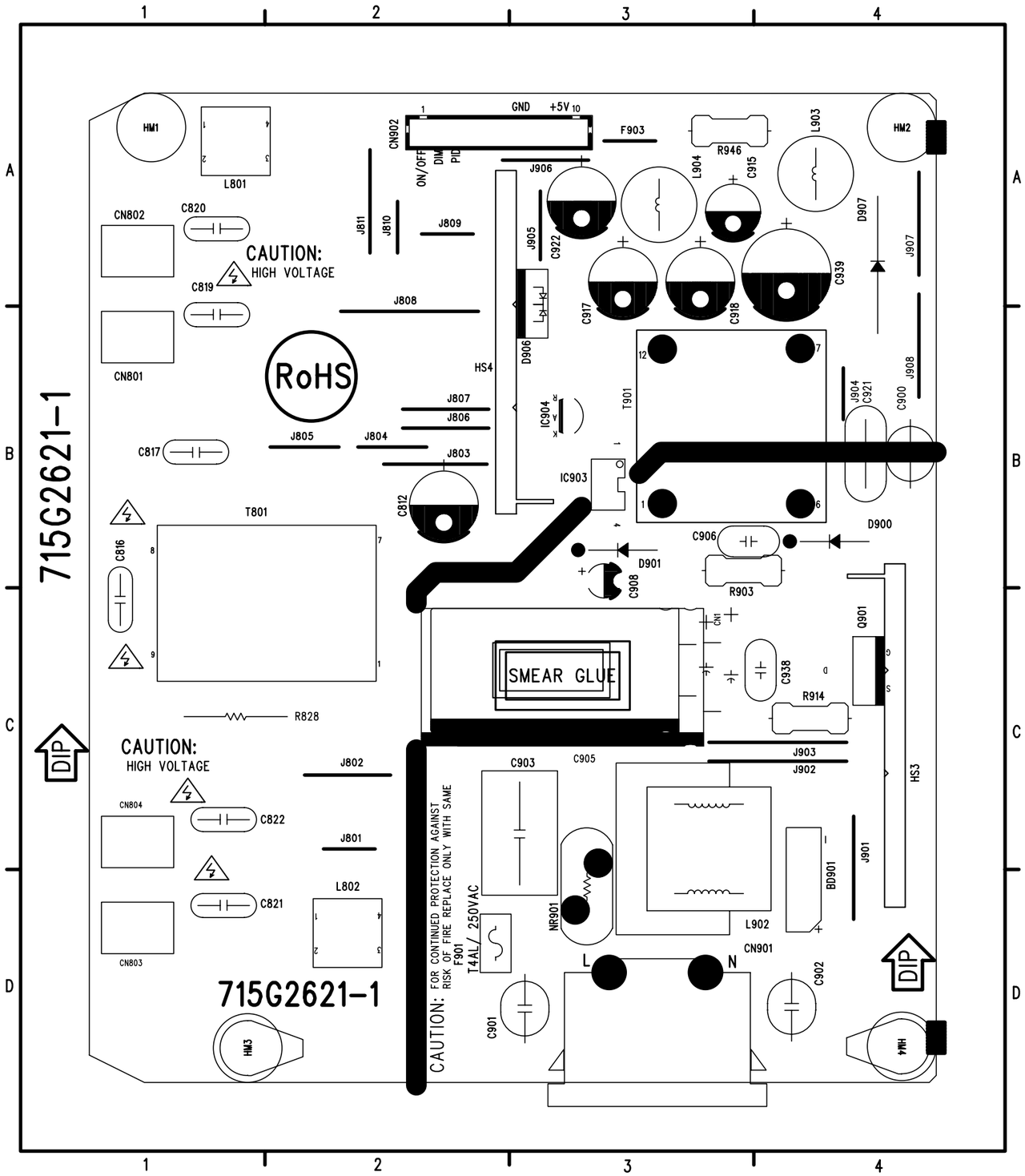
C401	B2	C446	B1	D409	B2	R119	B1	R452	B2	R708	A1
C402	A1	C447	B1	D410	B2	R120	B1	R453	B2	R709	A1
C403	A1	C448	B1	D411	B2	R401	B2	R454	B2	R710	A1
C404	A2	C449	B1	D412	B2	R403	B2	R455	B1	R711	A1
C405	A1	C450	B1	D413	B1	R404	A1	R456	B1	R712	A1
C406	A2	C451	B1	D414	B1	R405	A1	R457	B2	R714	A2
C407	B2	C452	B1	D415	B1	R406	B1	R458	B1	R715	A1
C408	A2	C453	B1	D416	B2	R407	B2	R459	B1	R717	A2
C409	A1	C454	B2	D417	B1	R408	A1	R460	B1	R718	A1
C410	A1	C455	B2	D418	B1	R409	A1	R461	B1	R719	A2
C411	A1	C456	A2	D419	B1	R411	A1	R462	B2	R720	A2
C412	A1	C457	A2	D420	B1	R413	A1	R463	B2	R723	A2
C413	A2	C458	A2	D421	B1	R414	A1	R464	B1	R725	A2
C414	B2	C459	A2	D422	B1	R415	B2	R465	B1	R727	A2
C415	B2	C460	A2	D423	B2	R418	A1	R466	B1	R732	A2
C416	A2	C461	A2	D424	B2	R419	A1	R467	B1	R733	A2
C417	A2	C464	A1	D425	B1	R420	A1	R468	B2	R734	A2
C418	A1	C702	A1	D426	B1	R421	A1	R469	B2	R735	A1
C419	A2	C708	A1	D704	A1	R422	A1	R470	B1	R736	A1
C420	A2	C709	A1	FB103	B1	R423	A1	R471	B1		
C421	B1	C710	A1	FB401	A1	R424	A2	R472	B1		
C422	B1	C711	A1	FB402	B1	R425	B2	R473	B1		
C423	B1	C712	A1	FB403	A1	R426	B2	R474	A1		
C424	B1	C713	A1	FB404	A1	R427	B2	R475	A1		
C425	A2	C714	A1	FB405	A2	R428	A2	R486	A2		
C426	A1	C715	A2	FB406	A1	R429	B2	R487	A2		
C427	A1	C717	A2	FB409	B2	R434	B2	R488	A2		
C428	A1	C718	A2	FB410	B2	R435	B2	R489	B2		
C429	A1	C719	A2	FB411	B2	R436	B2	R490	B2	U401	A2
C430	A1	C720	A2	FB412	B2	R437	B2	R491	B1	U402	A2
C432	B2	C721	A2	FB701	A2	R438	B2	R492	A2	U403	B2
C433	B2	C724	A1	FB702	A2	R439	B2	R493	B1	U404	B2
C434	B2	C725	A1	FB703	A1	R440	B2	R494	B1	U405	B1
C435	B2	CN101	A2	Q401	A1	R441	B2	R495	B1	U406	A1
C436	B2	CN401	A1	Q402	B1	R442	B2	R496	B1	U701	B1
C437	B2	CN407	A1	Q403	A1	R443	B2	R497	B1	U702	A1
C438	B2	CN701	A1	Q406	B2	R444	B2	R499	A2	U703	A1
C439	B2	CN702	B1	Q409	B1	R445	B2	R501	B1	U704	B1
C440	B2	D403	B2	Q701	A1	R446	B2	R502	B1	X401	A1
C441	B2	D404	B2	Q703	A1	R447	B2	R701	A1		
C442	B2	D405	B2	Q704	A2	R448	B2	R702	A2		
C443	B2	D406	B2	Q705	A2	R449	B2	R705	A1		
C444	B2	D407	B2	Q706	A2	R450	B2	R706	A1		
C445	B2	D408	B2	R118	B1	R451	B2	R707	A1		



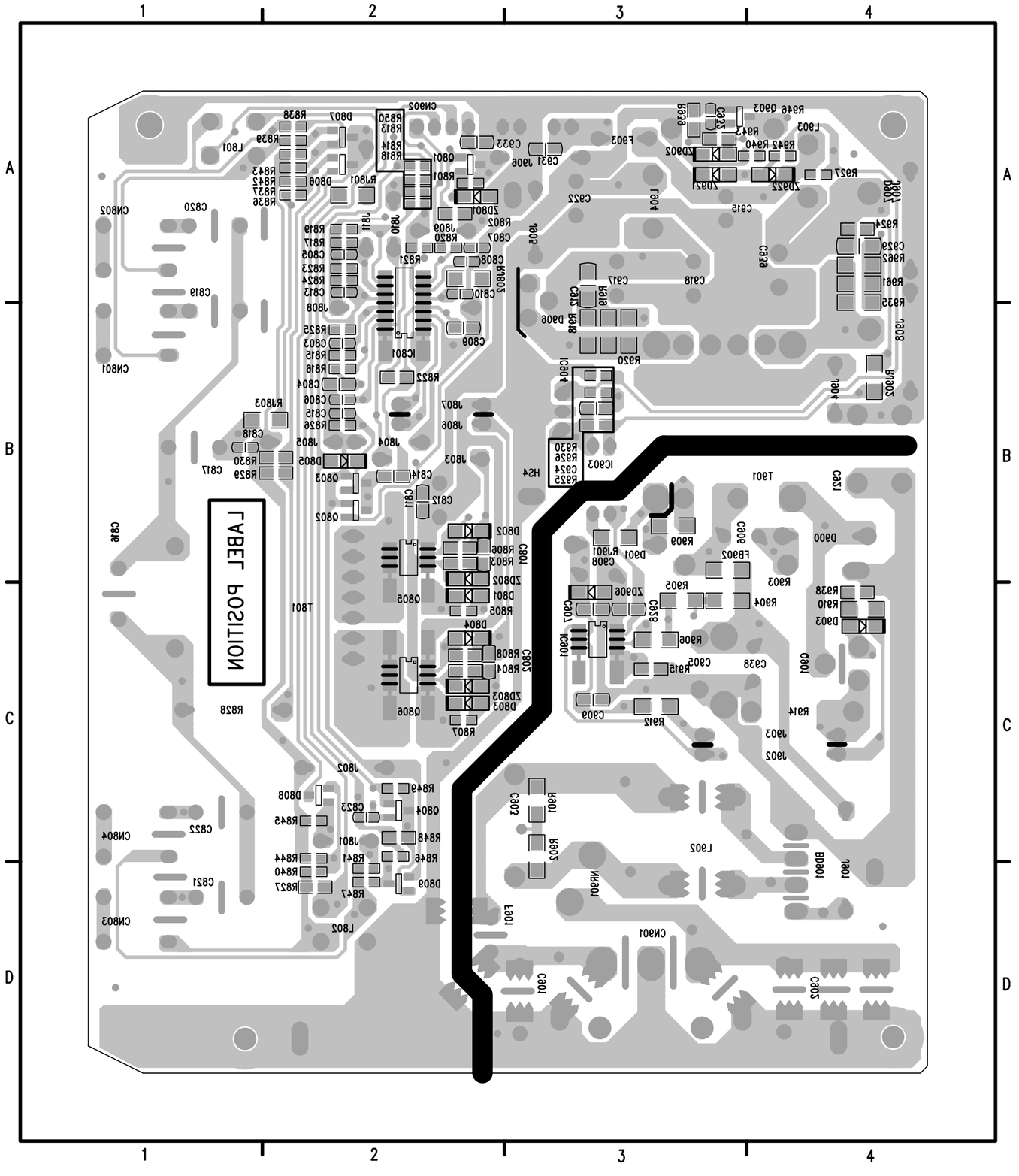
C470	B2
R476	B2
R477	B2
R478	B2
R479	B2
R480	B2
R481	B2
R482	A2

7.2 Power Board

715G2621-1



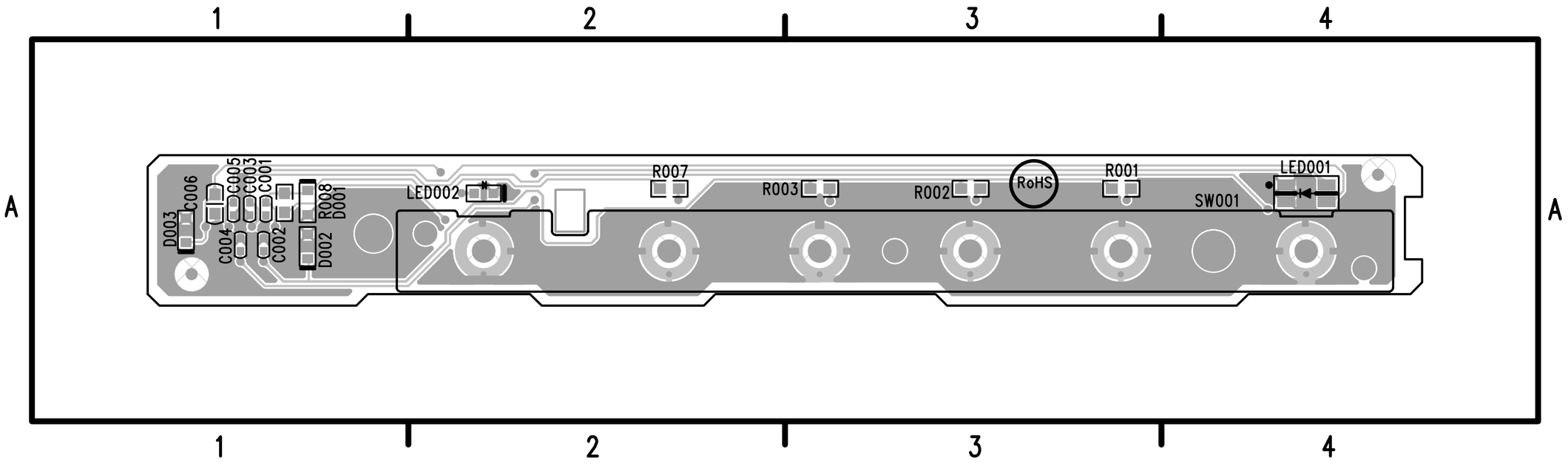
BD901	D4	J803	B2
C812	B2	J804	B2
C816	C1	J805	B2
C817	B1	J806	B2
C819	B1	J807	B2
C820	A1	J808	B2
C821	D1	J809	A2
C822	C1	J810	A2
C900	B4	J811	A2
C901	D3	J901	D4
C902	D4	J902	C3
C903	C3	J903	C3
C905	C3	J904	B4
C906	B3	J905	A3
C908	B3	J906	A2
C915	A3	J907	A4
C917	A3	J908	B4
C918	A3	L801	A1
C921	B4	L802	D2
C922	A3	L902	C3
C938	C4	L903	A4
C939	A4	L904	A3
CN801	B1	NR901	D3
CN802	A1	Q901	C4
CN803	D1	R828	C1
CN804	C1	R903	B3
CN901	D3	R914	C4
CN902	A2	R946	A4
D900	B4	SEN1	A1
D901	B3	SEN10	C1
D906	A3	SEN11	C4
D907	A4	SEN12	B1
F901	D2	SEN13	D1
F903	A3	SEN14	B2
HM10	D4	SEN15	D2
HM11	D3	SEN16	C1
HM12	D2	SEN2	A1
HM13	C3	SEN3	A1
HM14	D4	SEN4	B1
HM15	D2	SEN5	A2
HM16	B4	SEN6	B1
HM17	B4	SEN7	C1
HM36	D3	SEN8	D1
IC903	B3	SEN9	D1
IC904	B3	T801	C2
J801	C2	T901	B3
J802	C2		

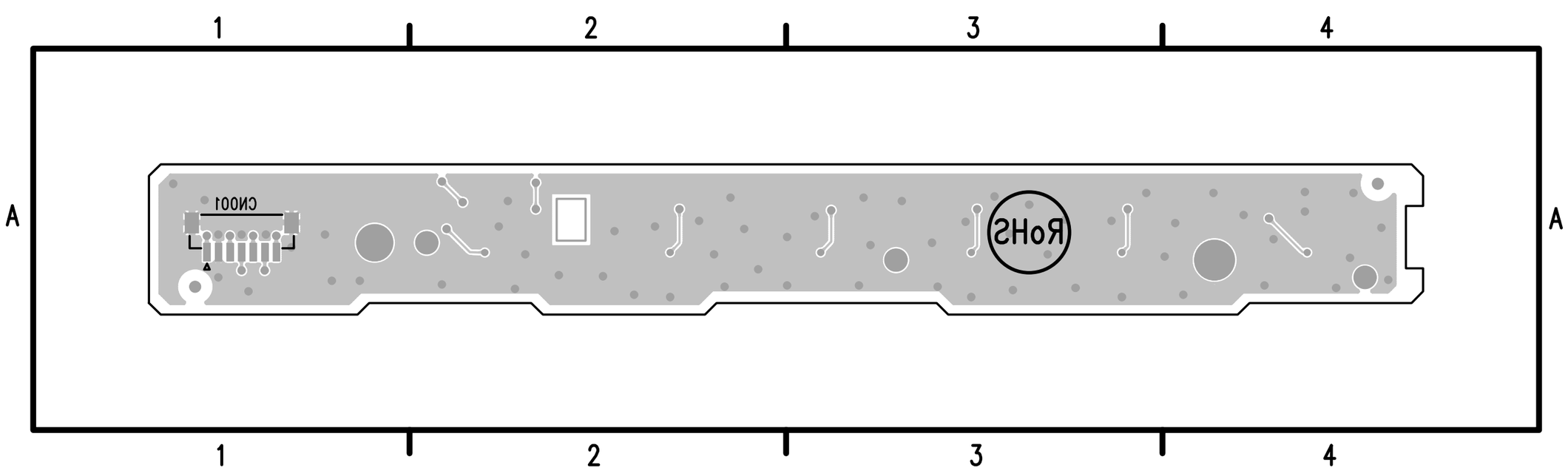


C801	B2	R837	A2
C802	C2	R838	A2
C803	B2	R839	A2
C804	B2	R840	D2
C805	A2	R841	D2
C806	B2	R842	A2
C807	A2	R843	A2
C808	A2	R844	C2
C809	B2	R845	C2
C810	A2	R846	C2
C811	B2	R847	D2
C813	A2	R848	C2
C814	B2	R849	C2
C815	B2	R850	A2
C818	B1	R901	C3
C823	C2	R902	C3
C907	C3	R904	C3
C909	C3	R905	C3
C912	A3	R906	C3
C924	B3	R909	B3
C928	C3	R910	C4
C929	A4	R912	C3
C931	A3	R915	C3
C932	A3	R918	B3
C933	A2	R919	B3
D801	C2	R920	B3
D802	B2	R924	A4
D803	C2	R925	B3
D804	C2	R926	B3
D805	B2	R927	A4
D806	A2	R930	B3
D807	A2	R935	A4
D808	C2	R938	C4
D809	D2	R939	A3
D903	C4	R940	A4
FB902	B3	R942	A4
IC801	B2	R943	A3
IC901	C3	R961	A4
Q801	A2	R962	A4
Q802	B2	RJ801	A2
Q803	B2	RJ802	A2
Q804	C2	RJ803	B2
Q805	B2	RJ901	B3
Q806	C2	RJ902	B4
Q903	A3	SG10	D4
R801	A2	SG11	D4
R802	A2	SG12	D4
R803	B2	SG13	D3
R804	C2	SG14	D3
R805	C2	SG15	D2
R806	B2	SG16	D2
R807	C2	SG17	A8
R808	C2	SG18	D1
R813	A2	SG19	D4
R814	A2	SG20	D4
R815	B2	SG21	A1
R816	B2	SG22	D4
R817	A2	SG23	D2
R818	A2	SG24	D3
R819	A2	SG25	D3
R820	A2	SG26	C3
R821	A2	SG27	C3
R822	B2	SG28	D2
R823	A2	ZD801	A2
R824	A2	ZD802	B2
R825	B2	ZD803	C2
R826	B2	ZD902	A3
R827	D2	ZD906	C3
R829	B2	ZD921	A3
R830	B2	ZD922	A4
R836	A2		

7.3 Key Board

715G2844-1

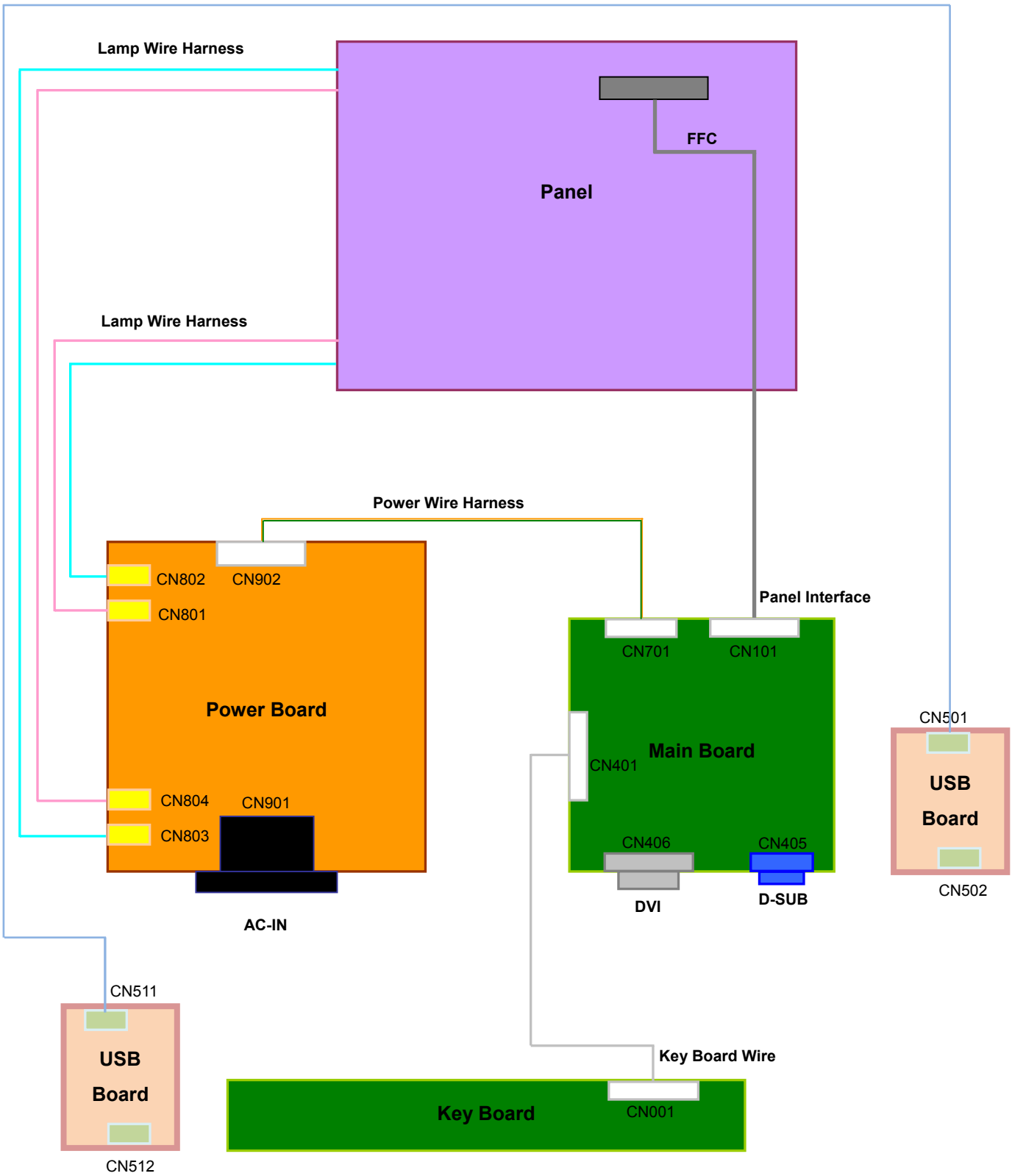




C001 A1
C002 A1
C003 A1
C004 A1
C005 A1
C006 A1
D001 A1
D002 A1
D003 A1
LED001 A4
LED002 A2
R001 A3
R002 A3
R003 A3
R007 A2

CN001 A1

8. Wiring Diagram



9. Mechanical Instructions

1. Back View as Fig1

Place the monitor face down on a smooth surface as Fig 1. Be careful to avoid scratch and injury during the uninstallation.

Fig1

2. Remove cable cover as Fig2.

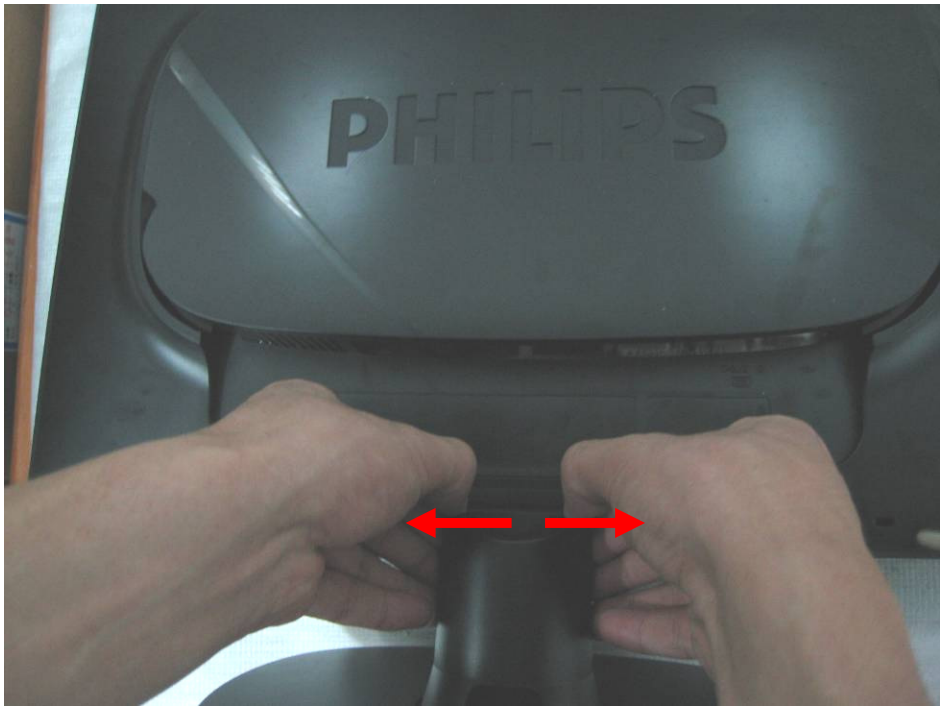


Fig2

3. Remove the base as Fig3.

Fig3

4. Remove the hinge cover as Fig4.

Fig4

5. Remove the column as Fig5.

Remove the four screws remarked in red to remove the column as Fig5.

Fig5

6. Remove the bezel as Fig6~Fig9.

a. Remove the screw remarked in red as Fig6.

Fig6

b. Remove the bezel as Fig7~Fig8.

Fig7

Fig8

Fig9

7. Remove rear cover as Fig10~Fig11

a. Remove the two screws in red in the left of the monitor as Fig10.

Fig10

b. Remove the two screws in red in the right of the monitor to remove the rear cover as Fig11.

Fig11

8. Remove the shielding as Fig12.

Remove the five screws remarked in red to remove the shielding.

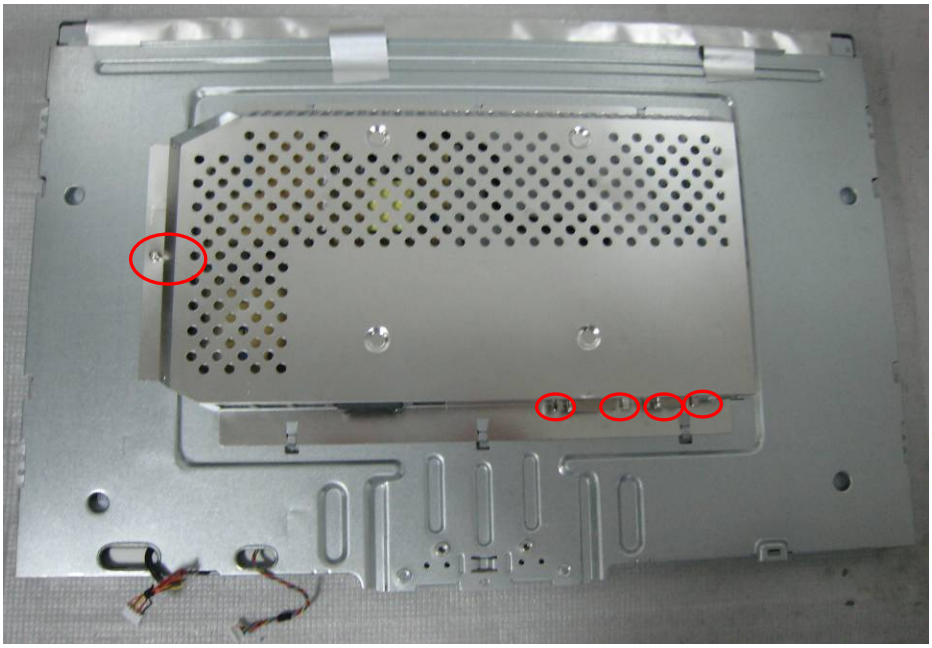


Fig12

9. Remove main board, power board and USB board as Fig13~Fig14

Remove the seven screws remarked in red to remove the main board, power board and USB board.

Fig13

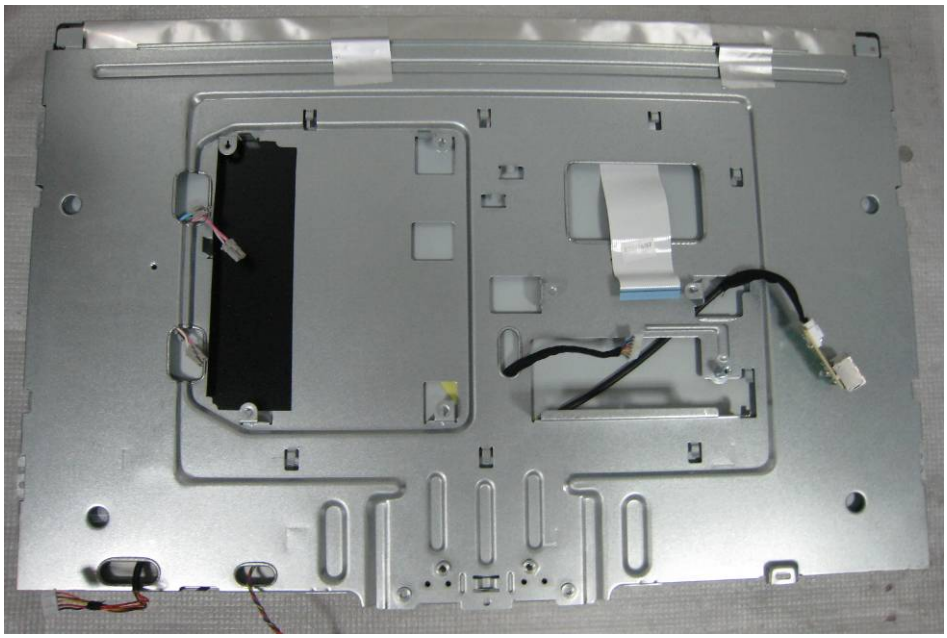


Fig14

10. Remove main frame as Fig15~Fig16.

a. Remove the two screws in red in the left as Fig15.

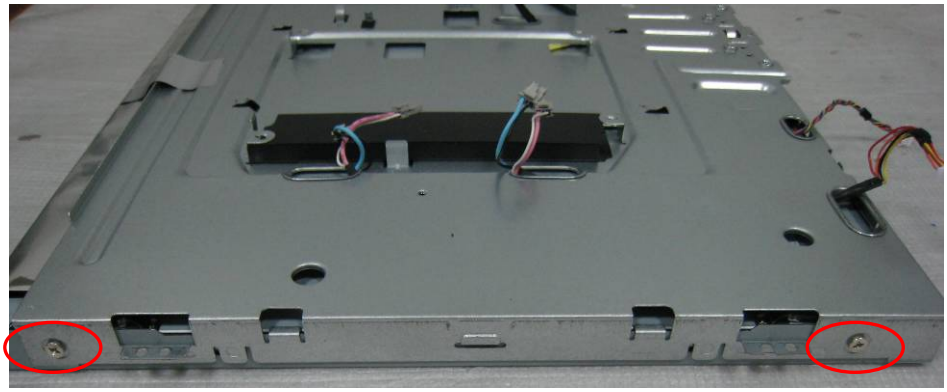


Fig15

b. Remove the two screws in red in the right to remove the main frame as Fig16.

Fig16

11. The end as Fig17~Fig18.

Fig17

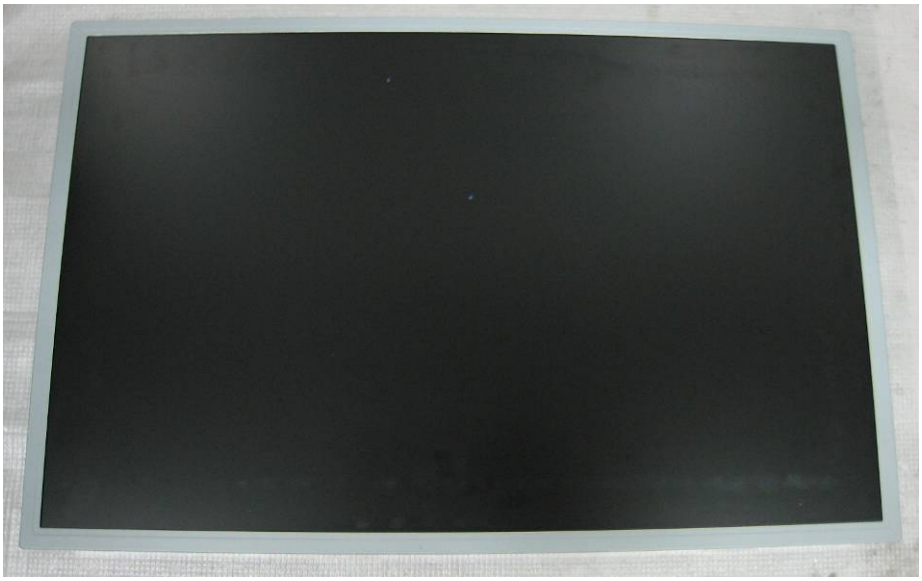
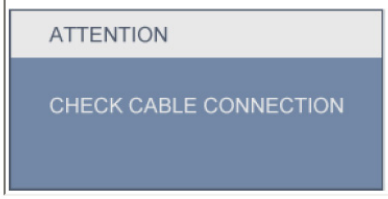


Fig18

10. Trouble Shooting

This page deals with problems that can be corrected by a user. If the problem still persists after you have tried these solutions, contact Philips customer service representative.

Common Problems	
Having this problem	Check these items
No Picture (Power LED not lit)	• Make sure the power cord is plugged into the power outlet and into the back of the monitor. • First, ensure that the power button on the front of the monitor is in the OFF position, then press it to the ON position.
No Picture (Power LED is amber or yellow)	• Make sure the computer is turned on. • Make sure the signal cable is properly connected to your computer. • Check to see if the monitor cable has bent pins. • The Energy Saving feature may be activated
Screen says  	• Make sure the monitor cable is properly connected to your computer. (Also refer to the Quick Set-Up Guide). • Check to see if the monitor cable has bent pins. • Make sure the computer is turned on.
AUTO button not working properly	• The Auto Function is designed for use on standard Macintosh or IBM-compatible PCs running Microsoft Windows. • It may not work properly if using nonstandard PC or video card.
Imaging Problems	
Display position is incorrect	• Press the Auto button. • Adjust the image position using the Phase/Clock of More Settings in OSD Main Controls.
Image vibrates on the screen	• Check that the signal cable is properly connected to the graphics board or PC.

Vertical flicker appears 	• Press the Auto button. • Eliminate the vertical bars using the Phase/Clock of More Settings in OSD Main Controls.
Horizontal flicker appears 	• Press the Auto button. • Eliminate the vertical bars using the Phase/Clock of More Settings in OSD Main Controls.
The screen is too bright or too dark	• Adjust the contrast and brightness on On-Screen Display. (The backlight of the LCD monitor has a fixed life span. When the screen becomes dark or begins to flicker, please contact your sales representative).
An after-image appears	• If an image remains on the screen for an extended period of time, it may be imprinted in the screen and leave an after-image. This usually disappears after a few hours
An after-image remains after the power has been turned off.	• This is characteristic of liquid crystal and is not caused by a malfunction or deterioration of the liquid crystal. The after-image will disappear after a peroid of time.
Green, red, blue, dark, and white dots remains	• The remaining dots are normal characteristic of the liquid crystal used in today's technology.

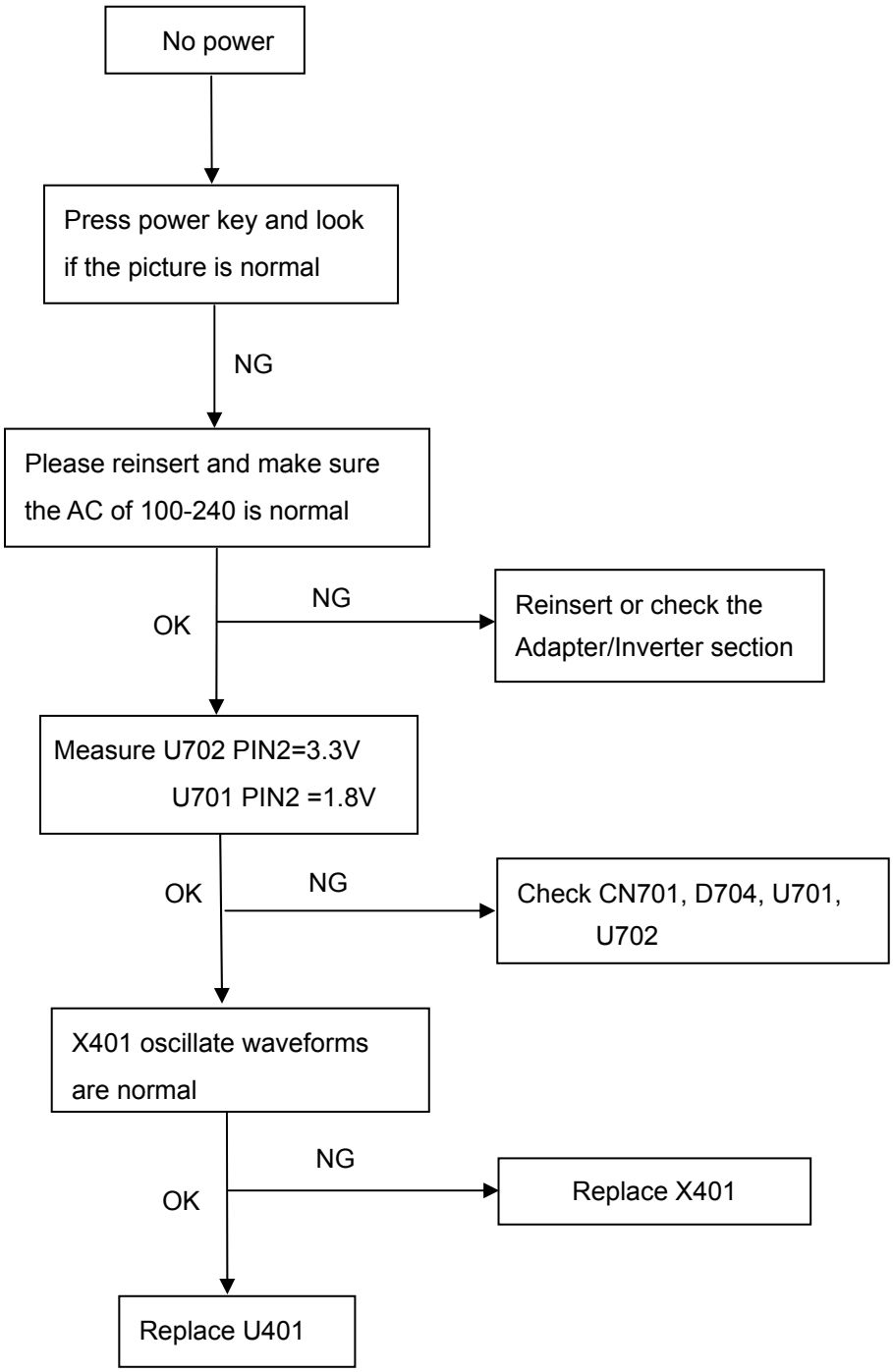
For further assistance, refer to the Consumer Information Centers list and contact Philips customer service representative.

RETURN TO TOP OF THE PAGE

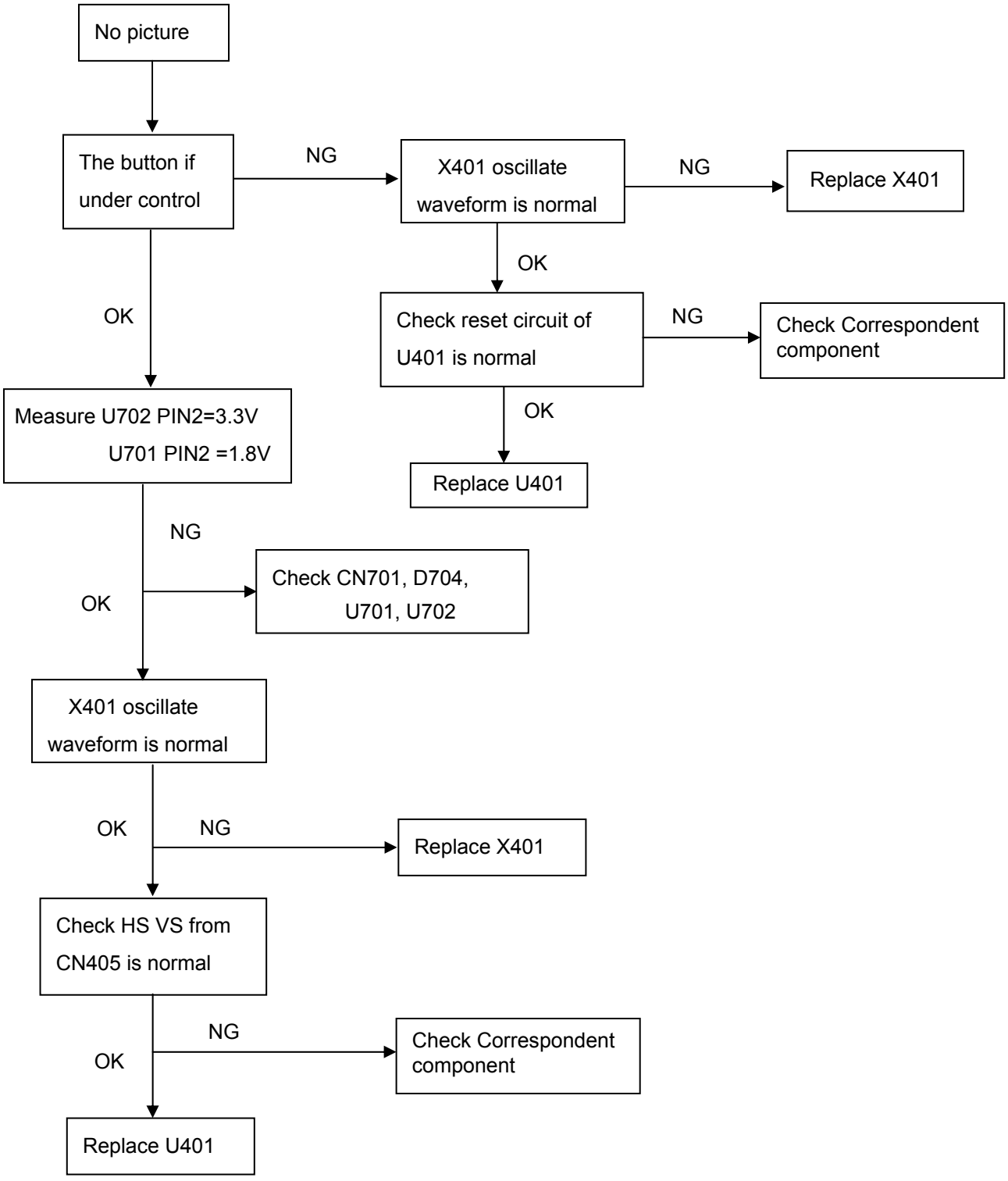
11. Repair Flow Chart

11.1 Main Board

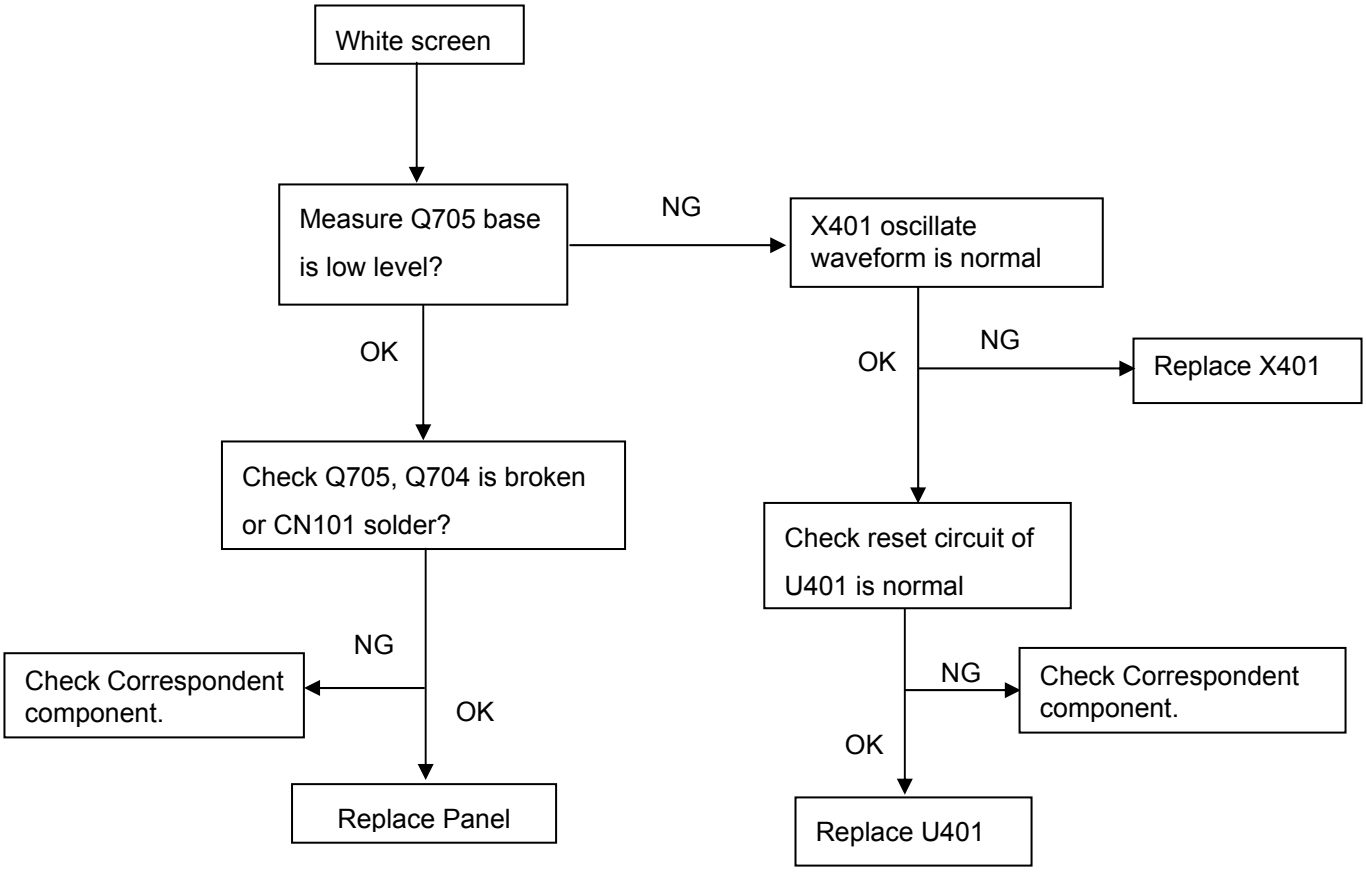
(1). No Power



(2). No Picture

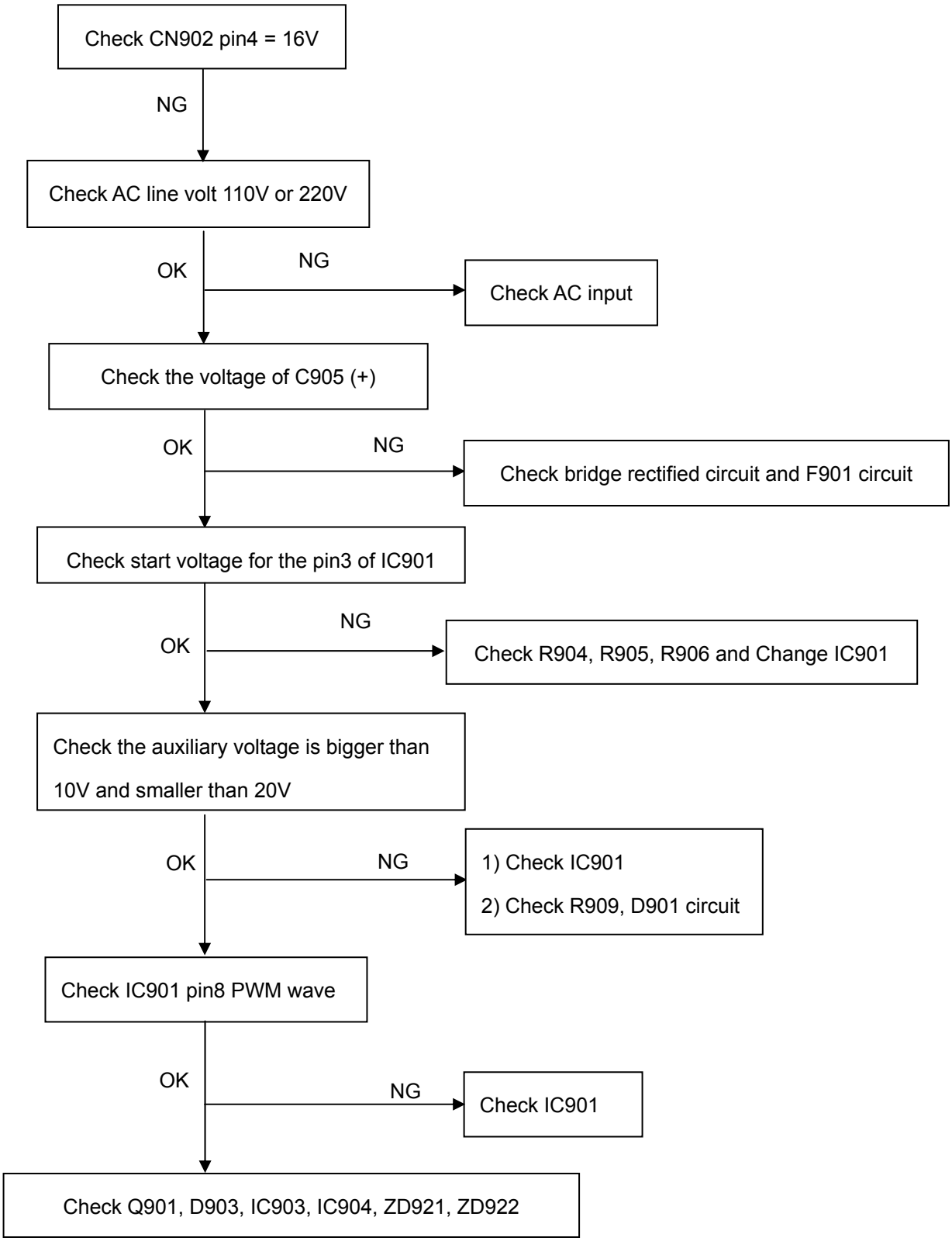

No picture
The button if under control
NG
X401 oscillate waveform is normal
NG
Replace X401
OK
Check reset circuit of U401 is normal
NG
Check Correspondent component
OK
Replace U401
OK
Measure U702 PIN2=3.3V
U701 PIN2 =1.8V
NG
Check CN701, D704, U701, U702
OK
X401 oscillate waveform is normal
OK
NG
Replace X401
Check HS VS from CN405 is normal
NG
Check Correspondent component
OK
Replace U401

(3). White screen

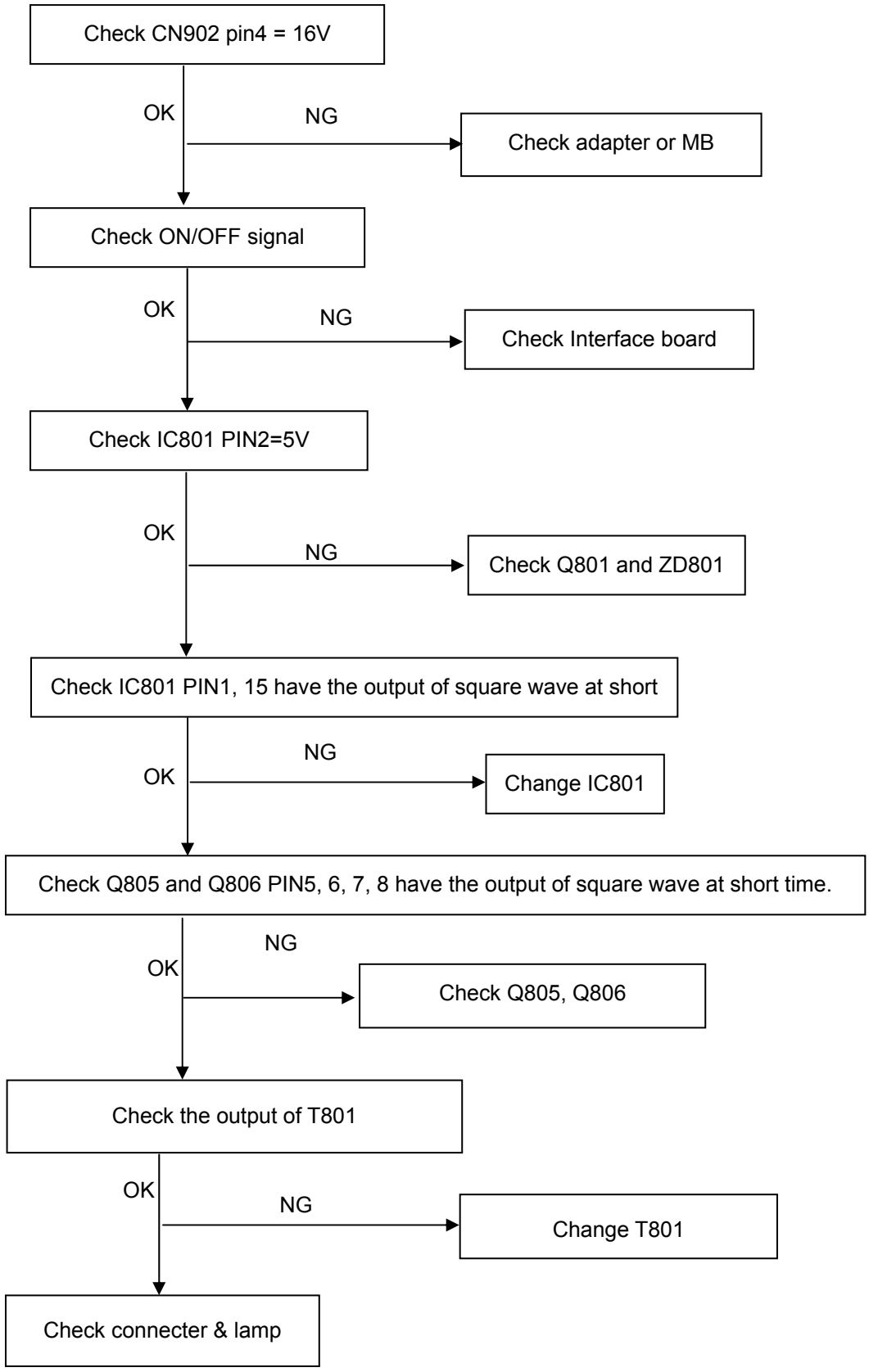


11.2. Power/Inverter Board

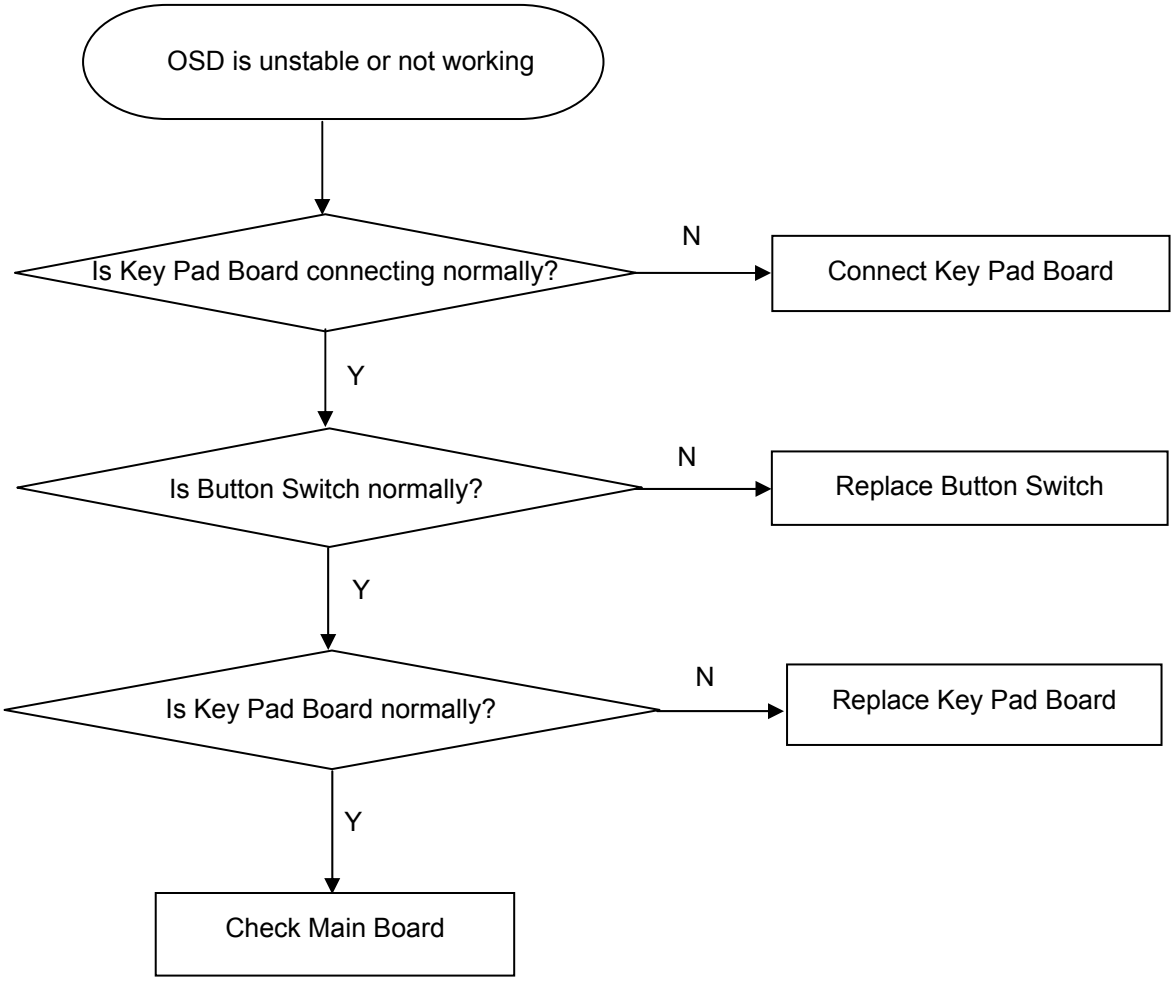
(1) No power



(2) W / LED, No Backlight



11.3 Key Board



12. ISP Instruction

1. When do the part, need the tools as follow:

a. An i486 (or above) personal computer or compatible.

b. Microsoft operation system Windows 95/98/2000/XP.

c. " PORT95NT.exe" program

d. Software ISP SN Alignment kits

The kit contents:

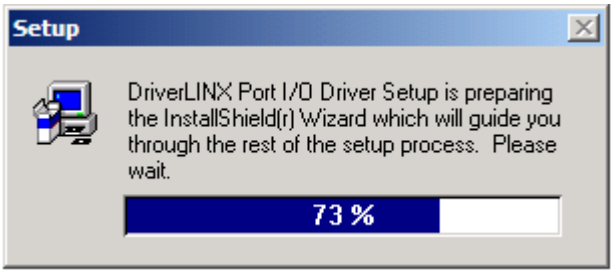
a. ISP BOARD x1

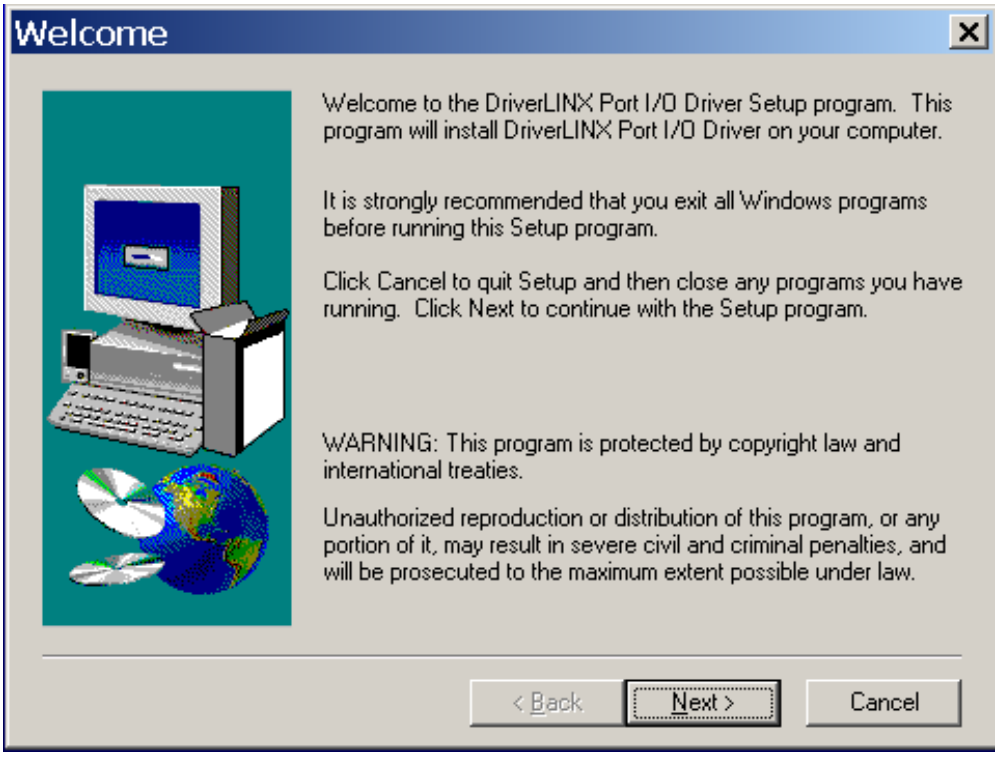
b. Printer cablex1

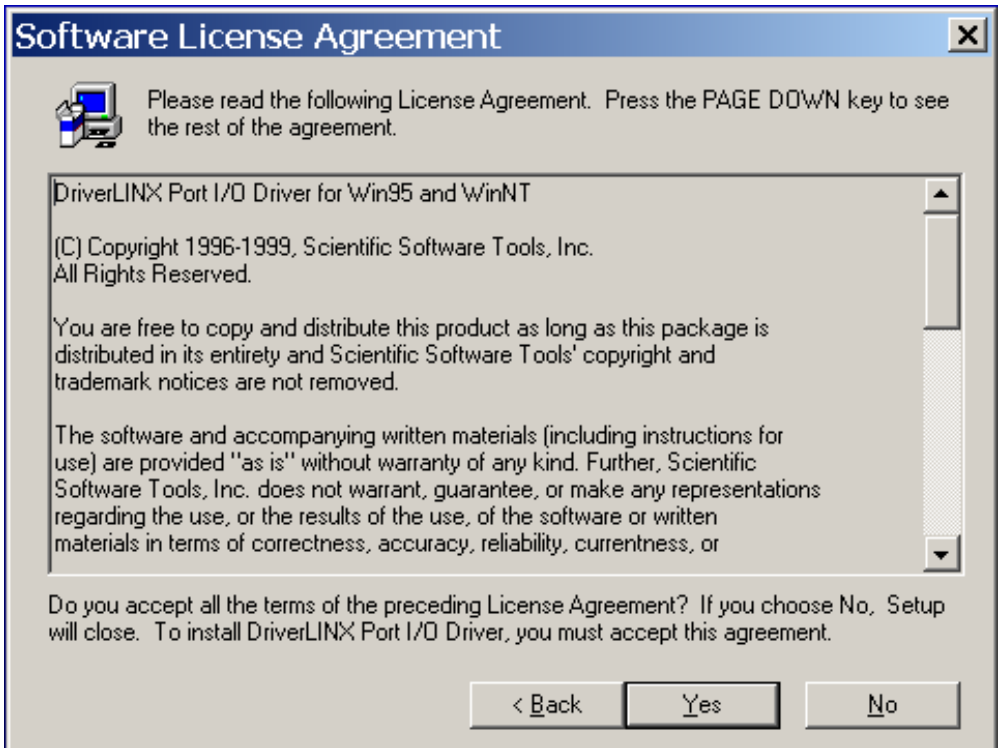
c. VGA cable x1

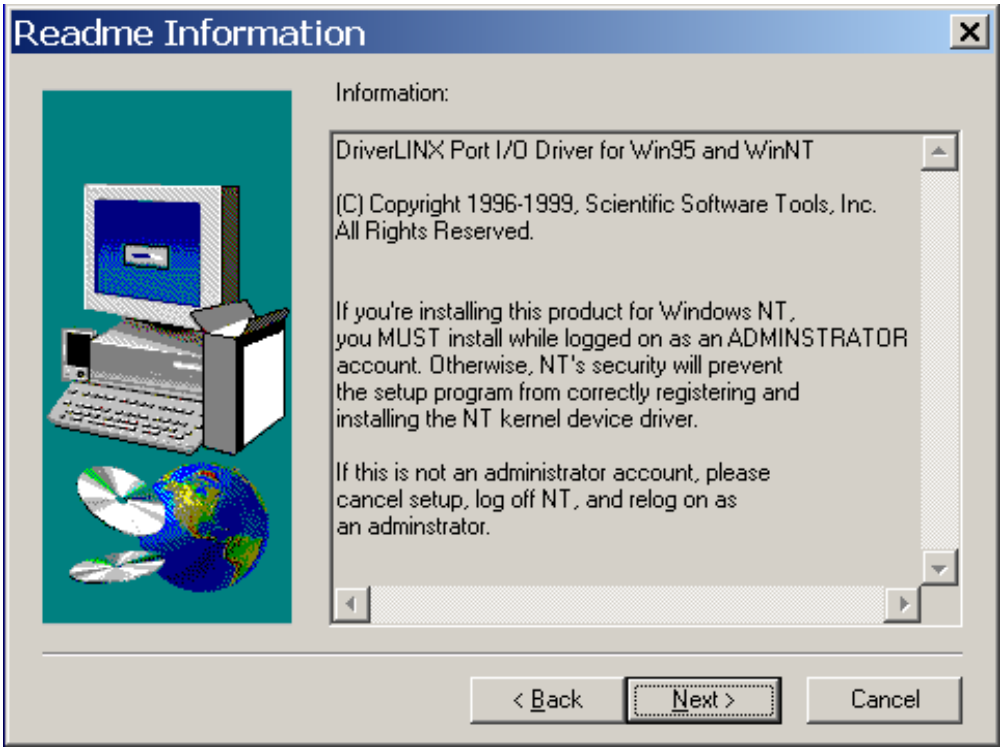
2. Install the "PORT95NT.EXE", and restart the computer.

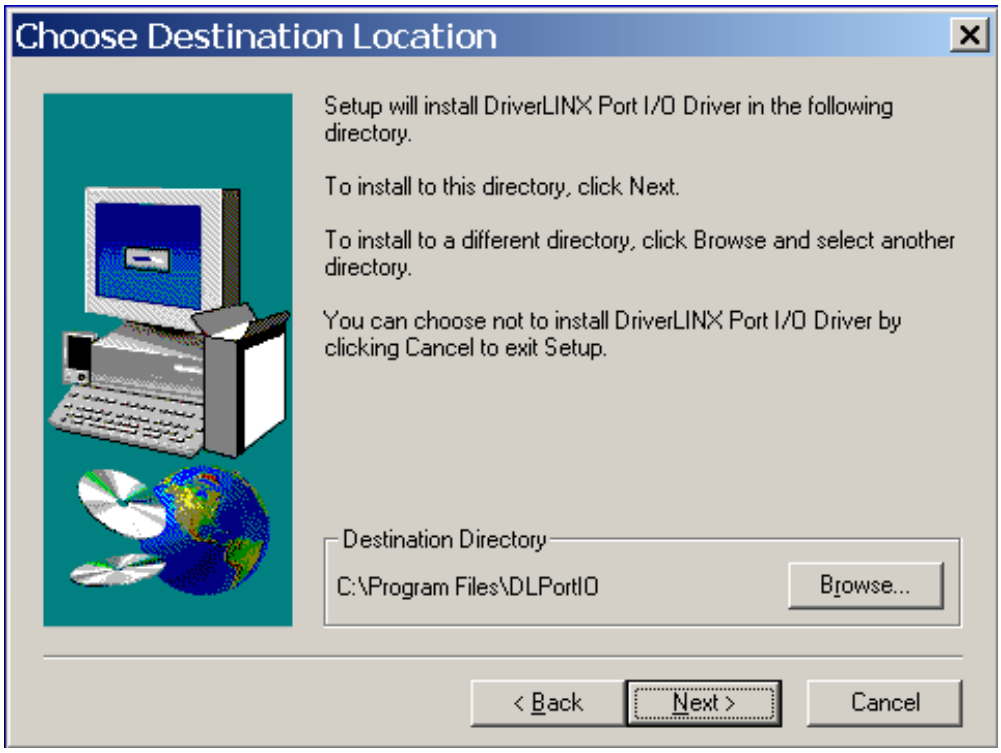
You must install the PORT95NT.EXE
PackageForTheWeb Stub
InstallShield Software Corpora... at the first. The processing as follows:

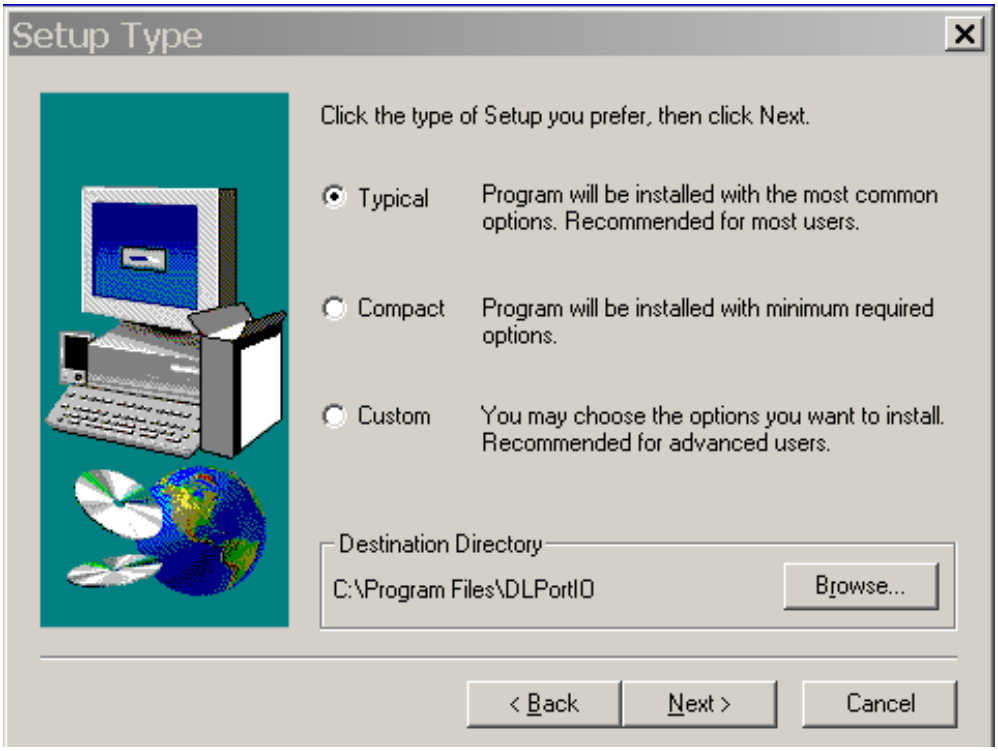

Setup
DriverLINX Port I/O Driver Setup is preparing the InstallShield(r) Wizard which will guide you through the rest of the setup process. Please wait.
73 %

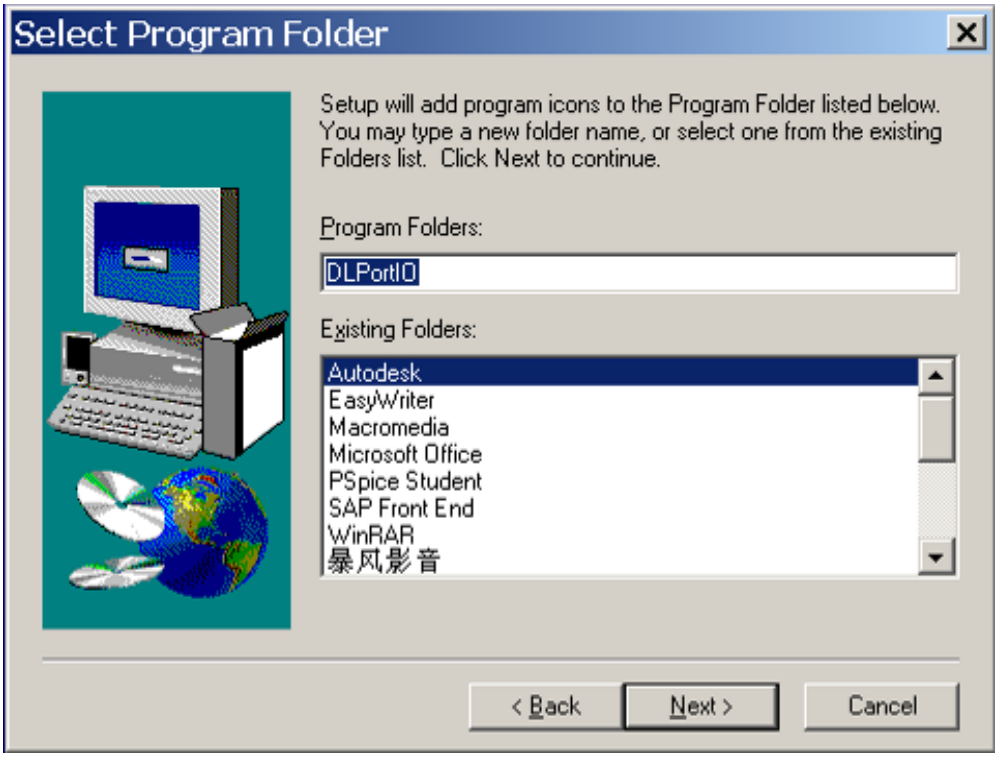

Welcome
Welcome to the DriverLINX Port I/O Driver Setup program. This program will install DriverLINX Port I/O Driver on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup program.
Click Cancel to quit Setup and then close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
< Back
Next >
Cancel

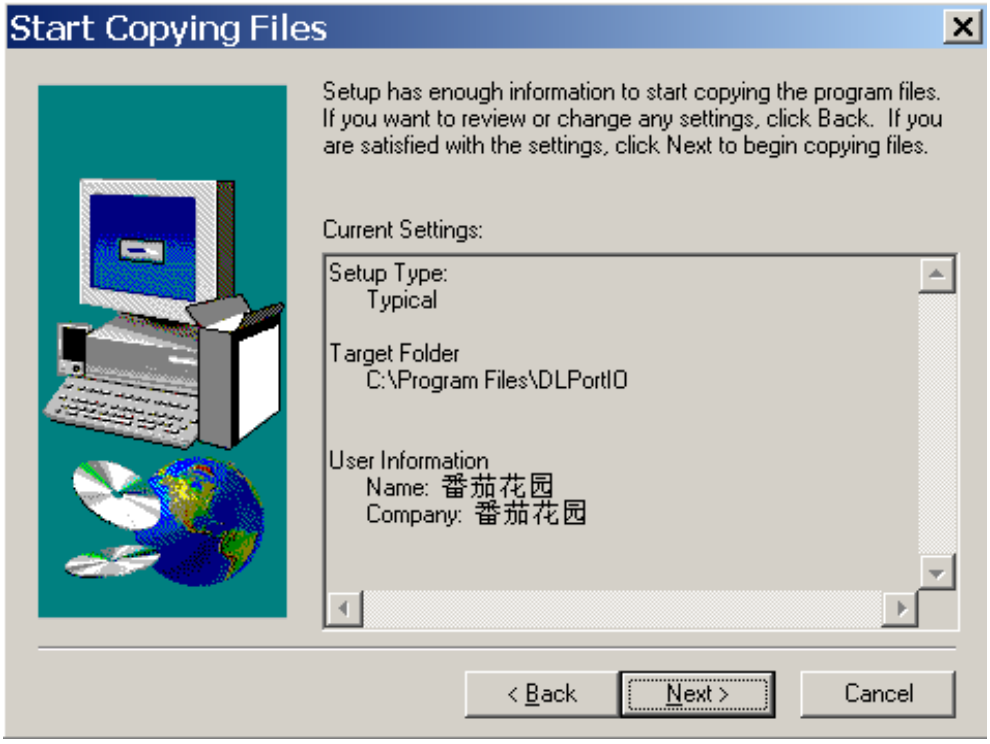

Software License Agreement
Please read the following License Agreement. Press the PAGE DOWN key to see the rest of the agreement.
DriverLINX Port I/O Driver for Win95 and WinNT
(C) Copyright 1996-1999, Scientific Software Tools, Inc.
All Rights Reserved.
You are free to copy and distribute this product as long as this package is distributed in its entirety and Scientific Software Tools' copyright and trademark notices are not removed.
The software and accompanying written materials (including instructions for use) are provided "as is" without warranty of any kind. Further, Scientific Software Tools, Inc. does not warrant, guarantee, or make any representations regarding the use, or the results of the use, of the software or written materials in terms of correctness, accuracy, reliability, currentness, or
Do you accept all the terms of the preceding License Agreement? If you choose No, Setup will close. To install DriverLINX Port I/O Driver, you must accept this agreement.
< Back
Yes
No

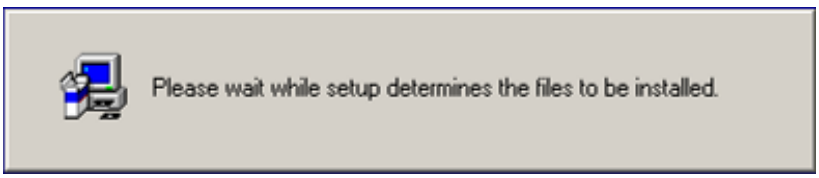

Readme Information
Information:
DriverLINX Port I/O Driver for Win95 and WinNT
(C) Copyright 1996-1999, Scientific Software Tools, Inc.
All Rights Reserved.
If you're installing this product for Windows NT, you MUST install while logged on as an ADMINSTRATOR account. Otherwise, NT's security will prevent the setup program from correctly registering and installing the NT kernel device driver.
If this is not an administrator account, please cancel setup, log off NT, and relog on as an adminstrator.
< Back
Next >
Cancel


Choose Destination Location
Setup will install DriverLINX Port I/O Driver in the following directory.
To install to this directory, click Next.
To install to a different directory, click Browse and select another directory.
You can choose not to install DriverLINX Port I/O Driver by clicking Cancel to exit Setup.
Destination Directory
C:\Program Files\DLPortIO
Browse...
< Back
Next >
Cancel

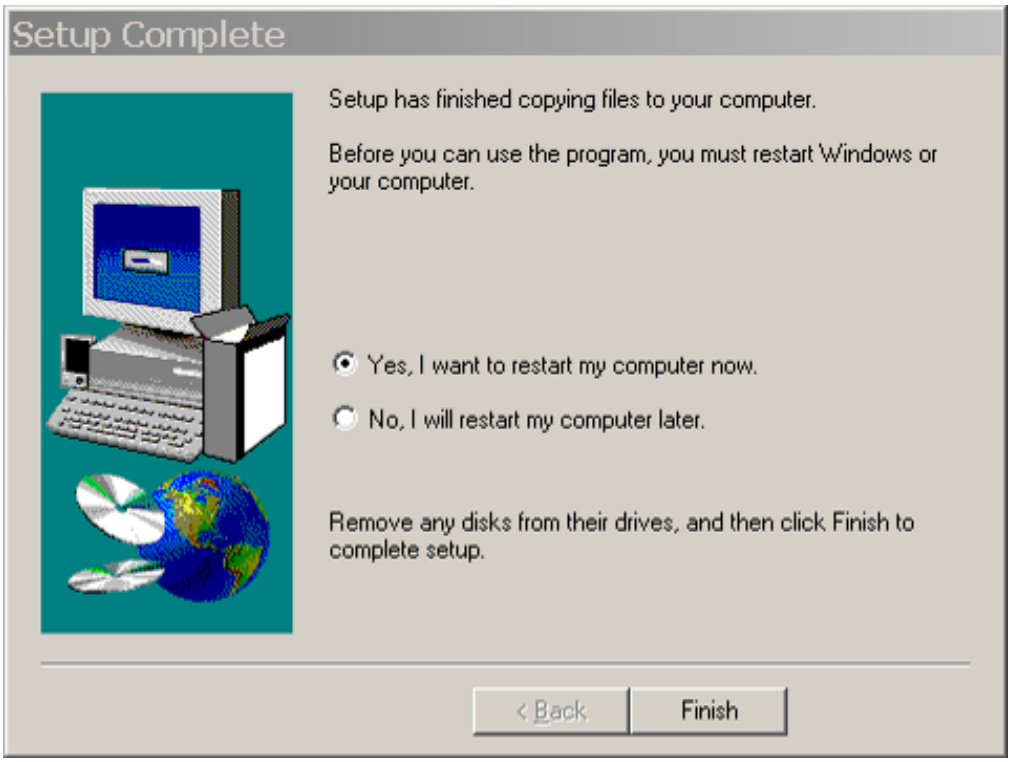

Setup Type
Click the type of Setup you prefer, then click Next.
Typical
Program will be installed with the most common options. Recommended for most users.
Compact
Program will be installed with minimum required options.
Custom
You may choose the options you want to install. Recommended for advanced users.
Destination Directory
C:\Program Files\DLPortIO
Browse...
< Back
Next >
Cancel




Start Copying Files
Setup has enough information to start copying the program files. If you want to review or change any settings, click Back. If you are satisfied with the settings, click Next to begin copying files.
Current Settings:
Setup Type:
Typical
Target Folder
C:\Program Files\DLPortIO
User Information
Name: 番茄花园
Company: 番茄花园
< Back
Next >
Cancel

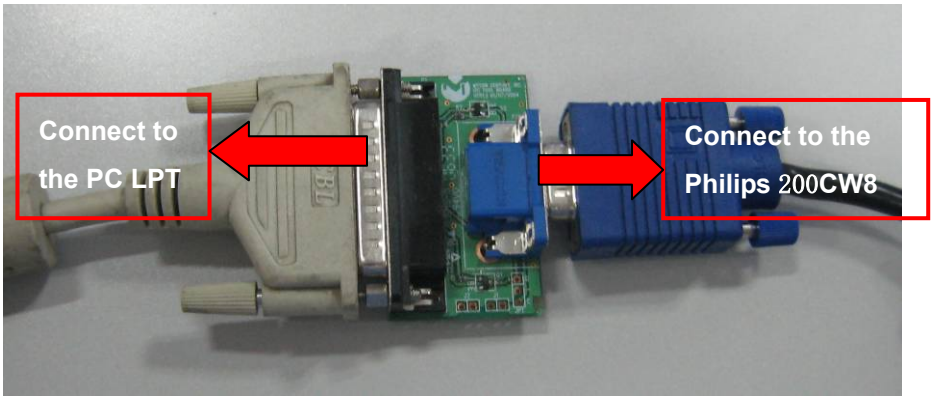


Click Finish to complete the installation.

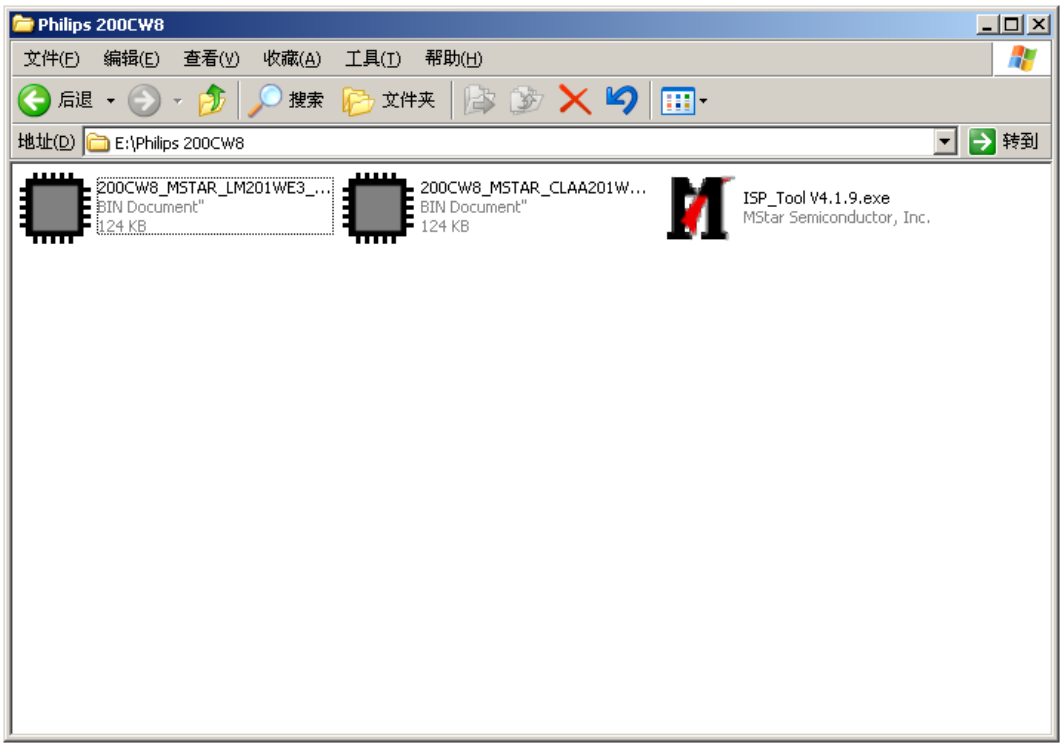

Setup Complete
Setup has finished copying files to your computer.
Before you can use the program, you must restart Windows or your computer.
Yes, I want to restart my computer now.
No, I will restart my computer later.
Remove any disks from their drives, and then click Finish to complete setup.
< Back
Finish

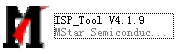
Note: After installation, you must restart the PC to take the setup to effect.

3. Connect the ISP board as follow:

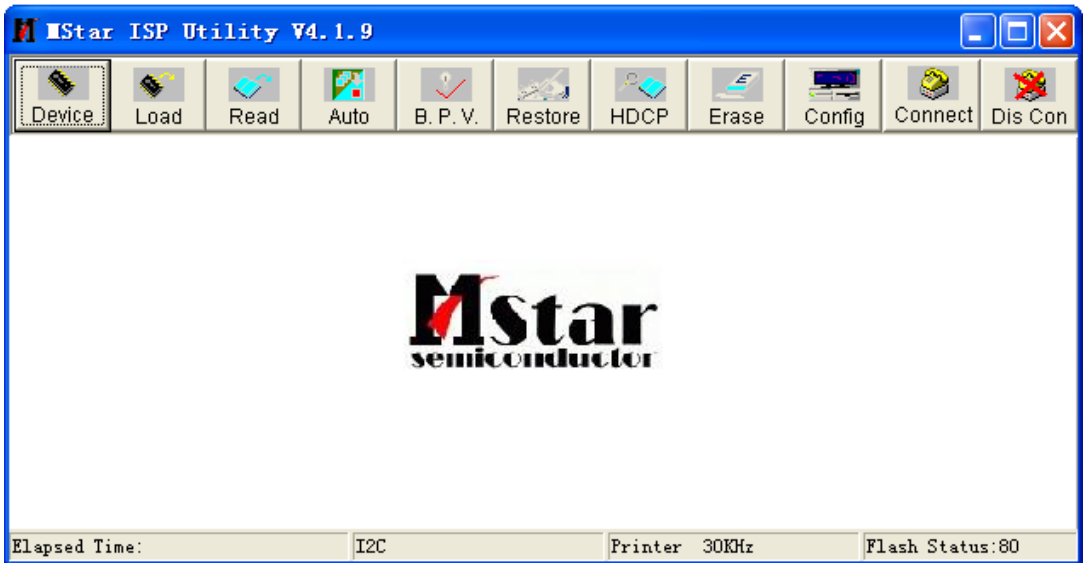


4. The process of ISP write is as follows.



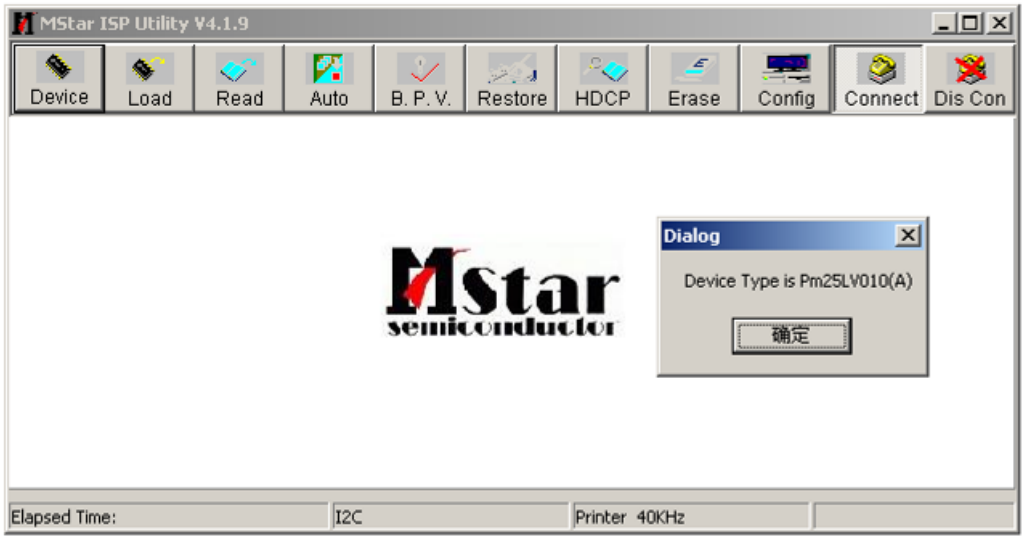
a. Double-click 

，running the program as follows:



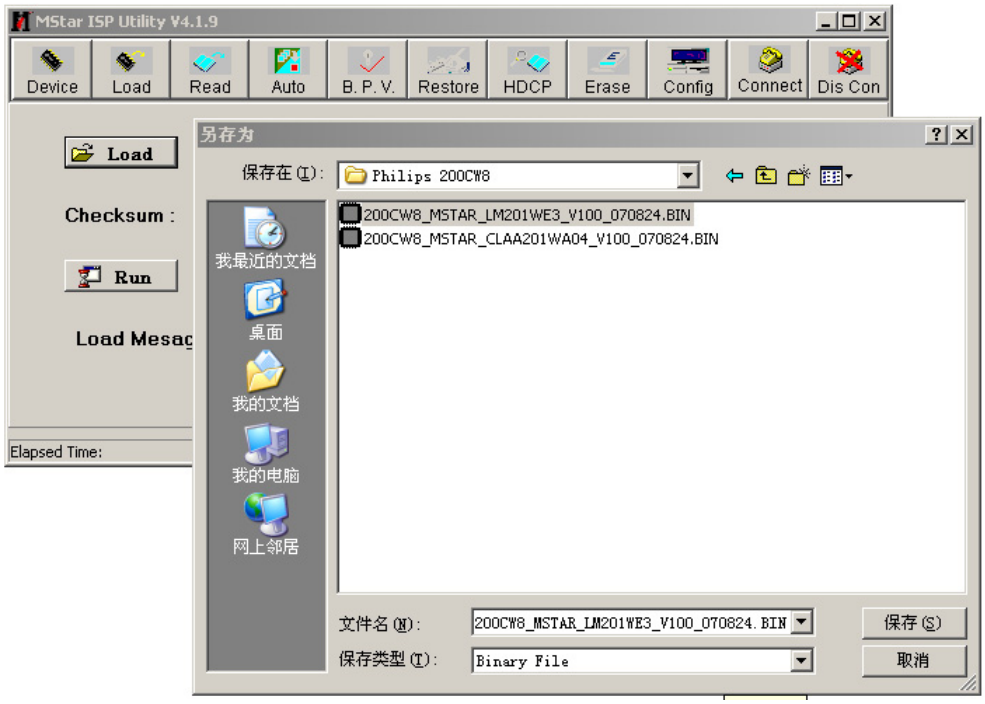
b. Click

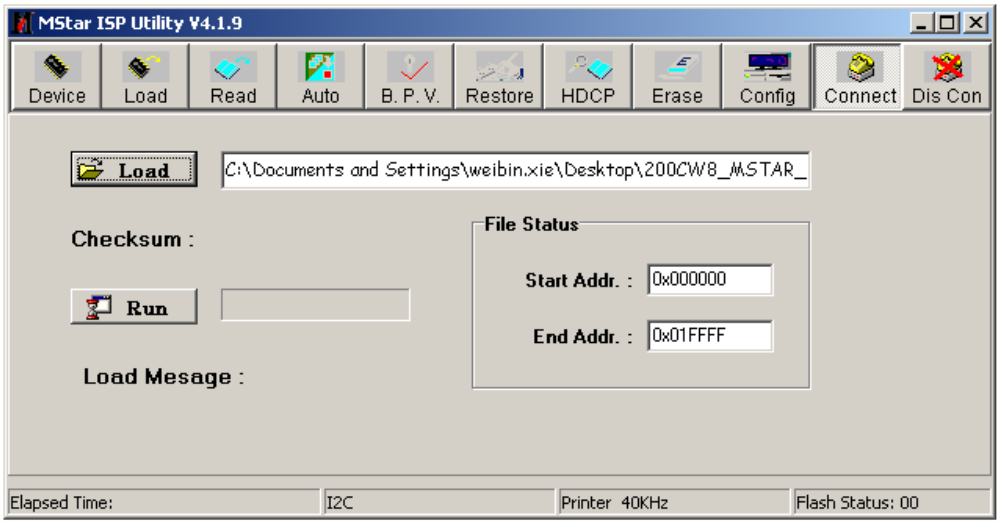
icon, running the program as follows:



c. Click

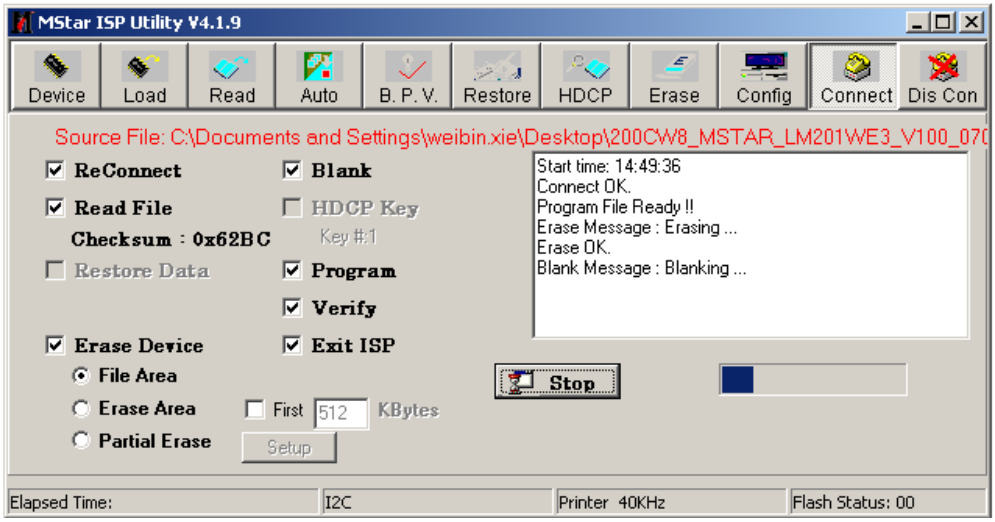
icon, search the program" 200CW8_MSTAR_LM201WE3_V100_070824.BIN", and click **open:**

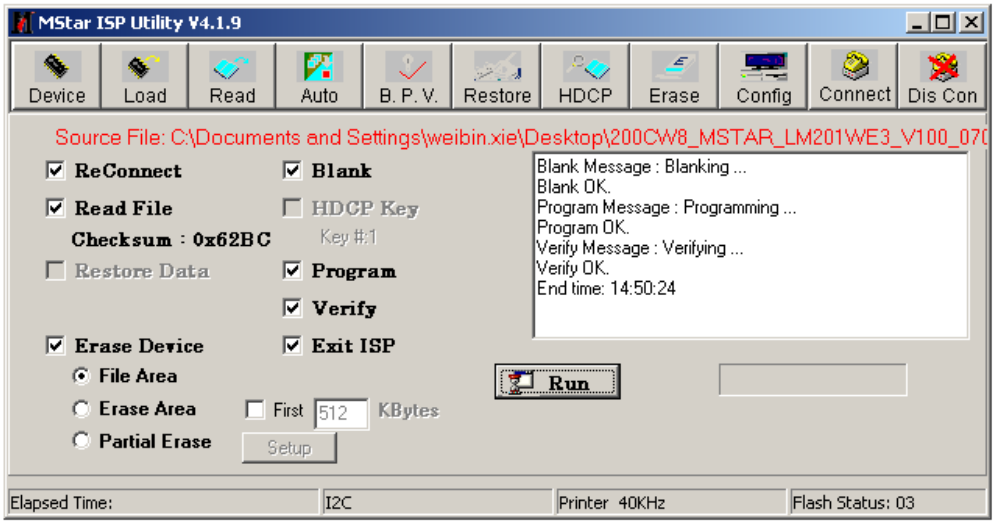




d. Click

icon, it will auto run. If burn in success, it will show as the follow picture:





13. DDC Instruction

General

DDC Data Re-programming

In case the main EEPROM with Software DDC which store all factory settings were replaced because a defect, repaired monitor' the serial numbers have to be re-programmed.

It is advised to re- soldered the main EEPROM with Software DDC from the old board onto the new board if circuit board have been replaced, in this case the DDC data does not need to be re-programmed.

Additional information about DDC (Display Data Channel) may be obtained from Video Electronics Standards Association (VESA). Extended Display Identification Data (EDID) information may be also obtained from VESA.

1. An i486 (or above) personal computer or compatible.
2. Microsoft operation system Windows 95/98/2000/XP.
3. " PORT95NT.exe, WinDDC_ setup" program.
4. Software OSD SN Alignment kits

The kit contents:

a. OSD SN BOARD x1

b. Printer cablex1

c. VGA cable x1

d. Digital cable x1

e. 12V DC power source

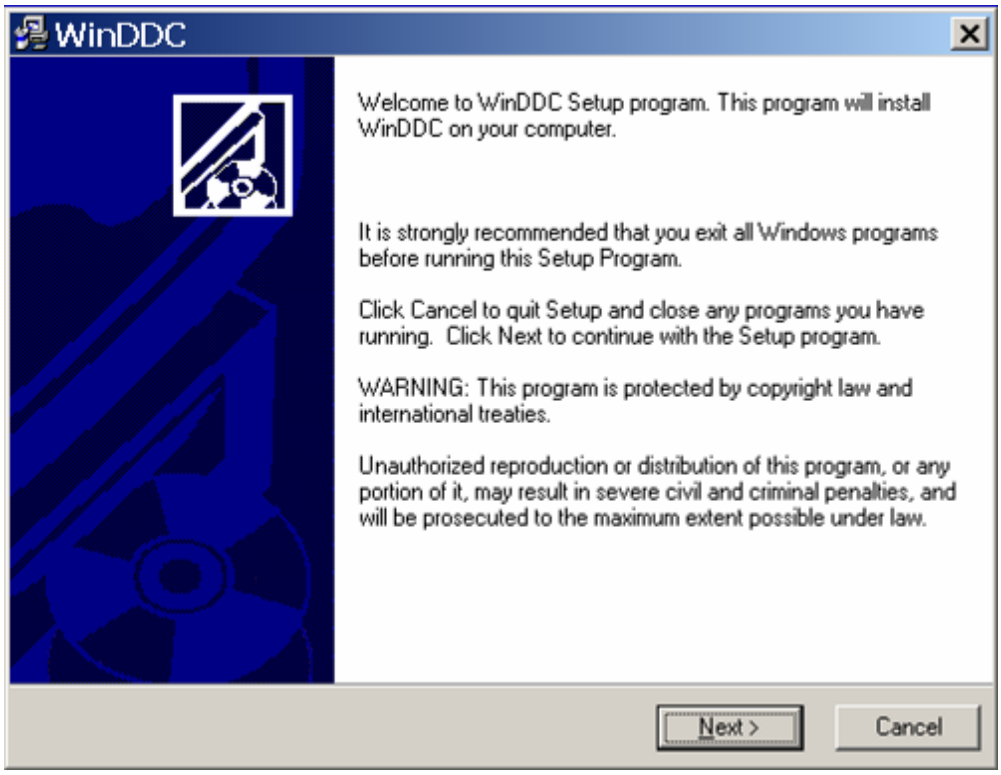
1. Install the "PORT95NT.EXE", and restart the computer.

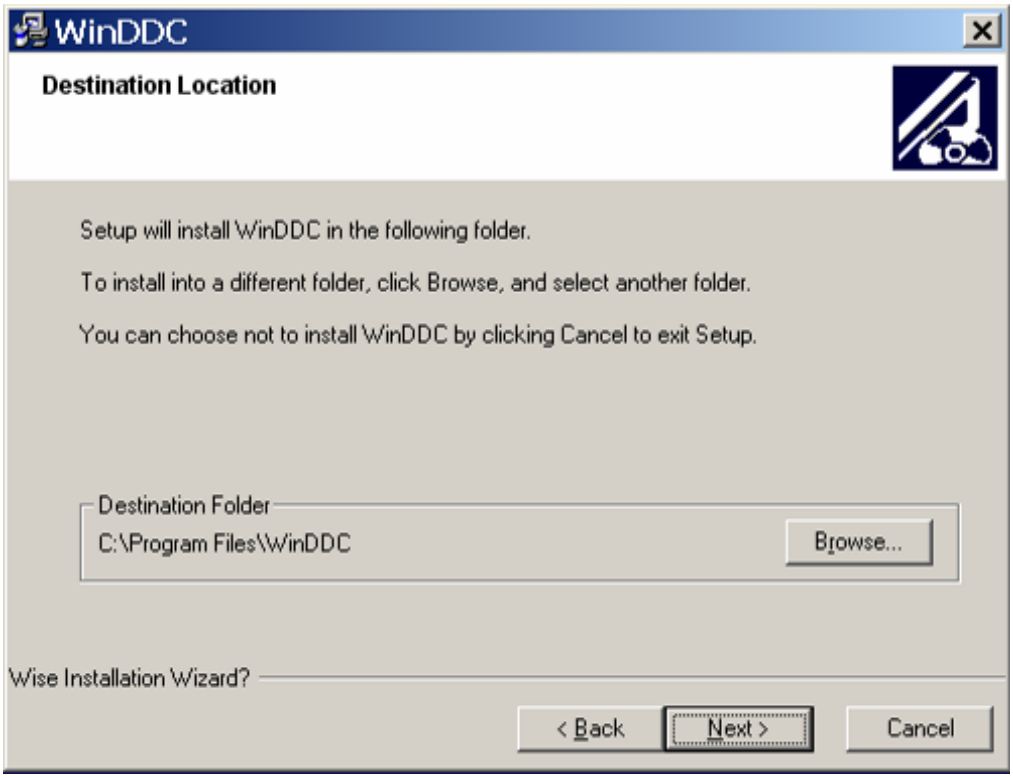
The process of installing "PORT95NT" has been specified in Item12, so it will not be specified again. If you have any problem, please read it in Item12.

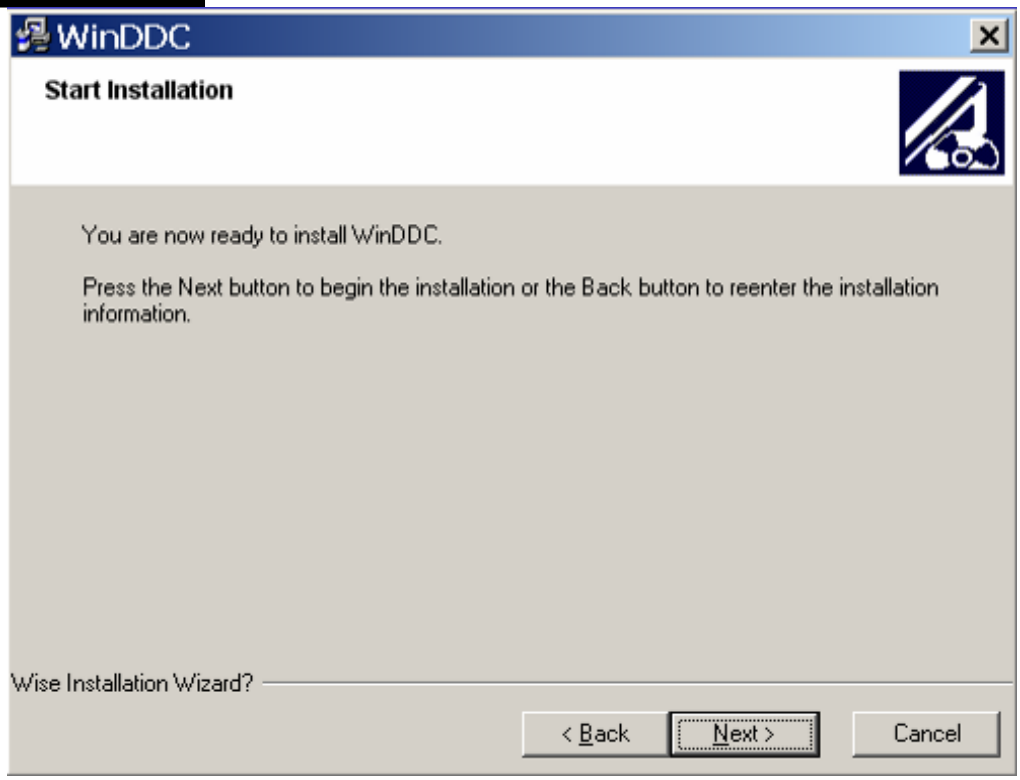
2. Install the "WinDDC_ setup"

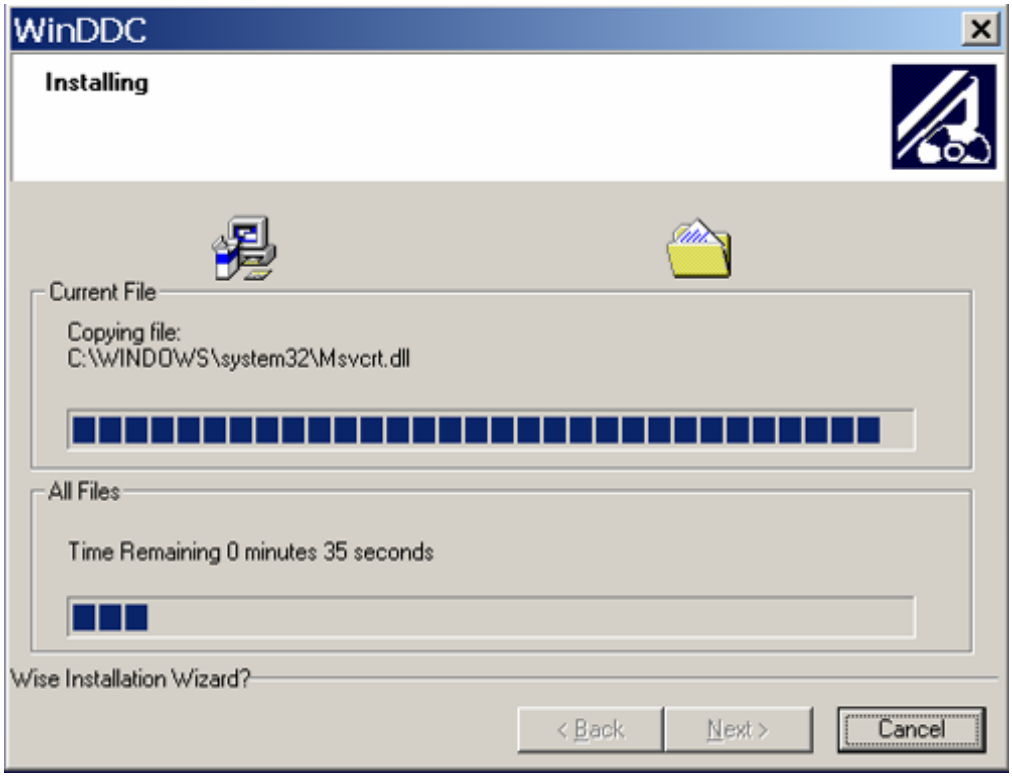
Second, you must install the

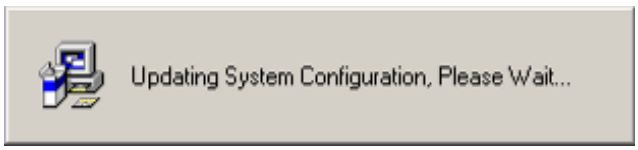
. The processing as follows:


WinDDC
Welcome to WinDDC Setup program. This program will install WinDDC on your computer.
It is strongly recommended that you exit all Windows programs before running this Setup Program.
Click Cancel to quit Setup and close any programs you have running. Click Next to continue with the Setup program.
WARNING: This program is protected by copyright law and international treaties.
Unauthorized reproduction or distribution of this program, or any portion of it, may result in severe civil and criminal penalties, and will be prosecuted to the maximum extent possible under law.
Next >
Cancel

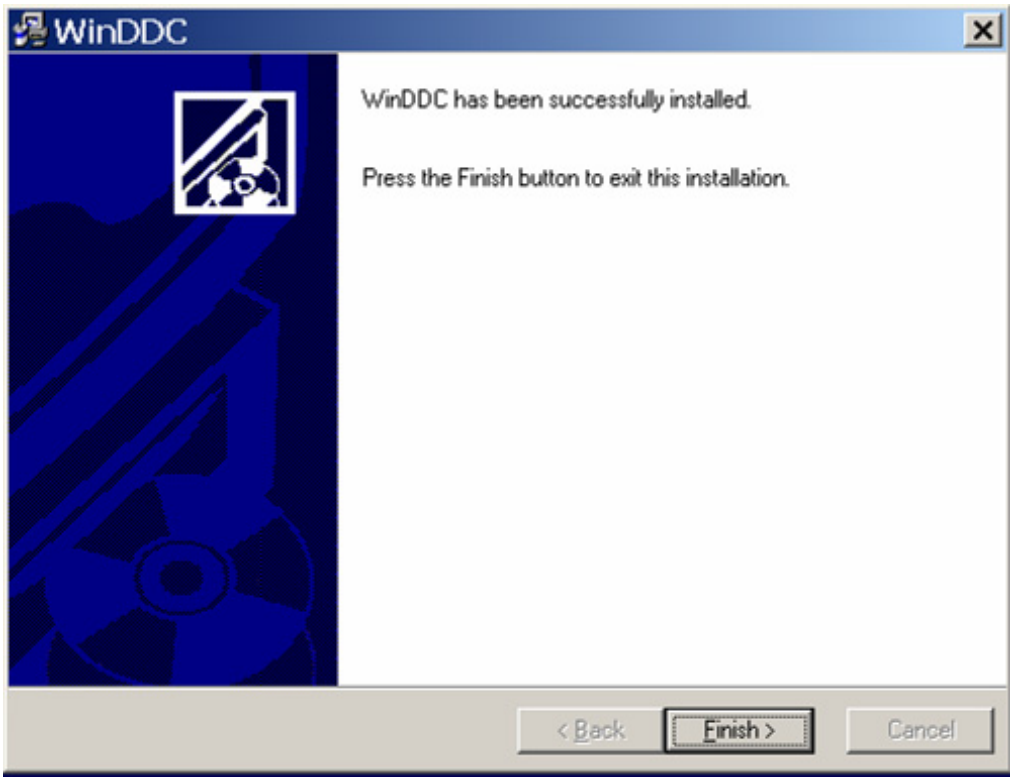

WinDDC
Destination Location
Setup will install WinDDC in the following folder.
To install into a different folder, click Browse, and select another folder.
You can choose not to install WinDDC by clicking Cancel to exit Setup.
Destination Folder
C:\Program Files\WinDDC
Browse...
Wise Installation Wizard?
< Back
Next >
Cancel


WinDDC
Start Installation
You are now ready to install WinDDC.
Press the Next button to begin the installation or the Back button to reenter the installation information.
Wise Installation Wizard?
< Back
Next >
Cancel

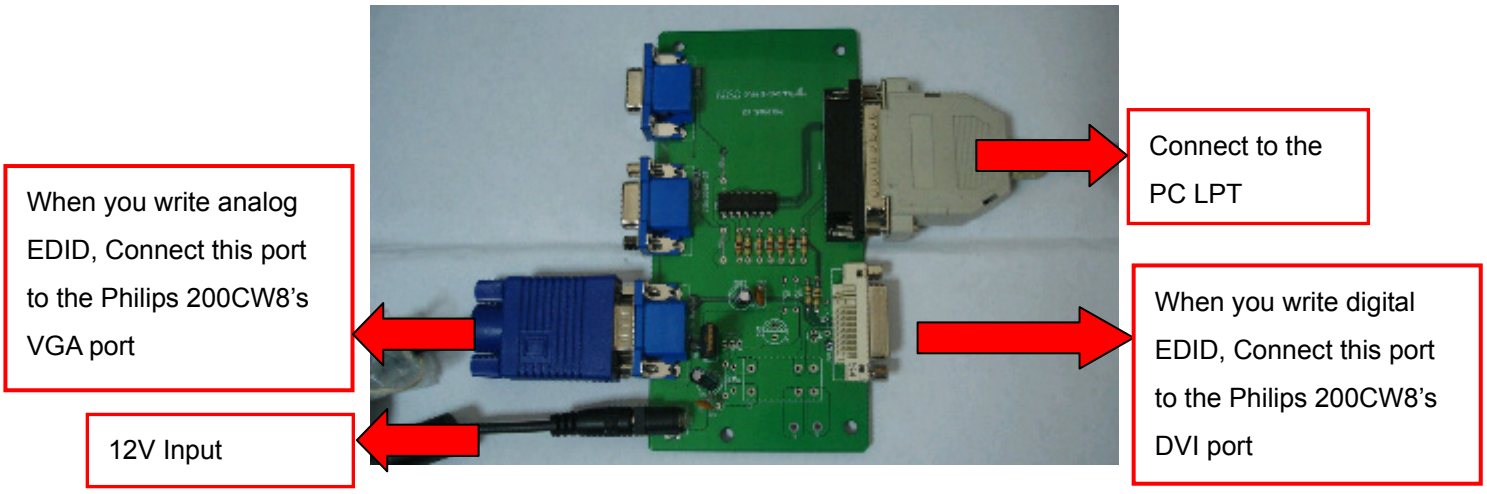

WinDDC
Installing
Current File
Copying file:
C:\WINDOWS\system32\Msvcrt.dll
All Files
Time Remaining 0 minutes 35 seconds
Wise Installation Wizard?
< Back
Next >
Cancel


Updating System Configuration, Please Wait...

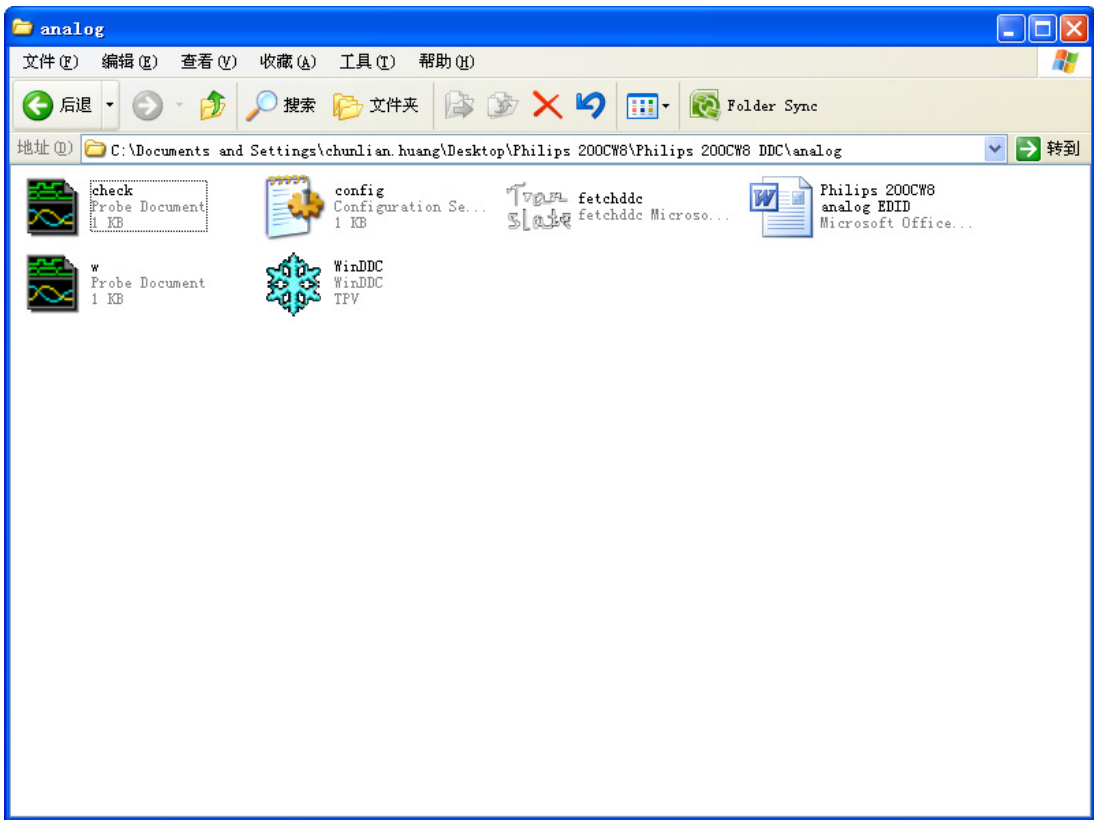
Click Finish to complete the installation.



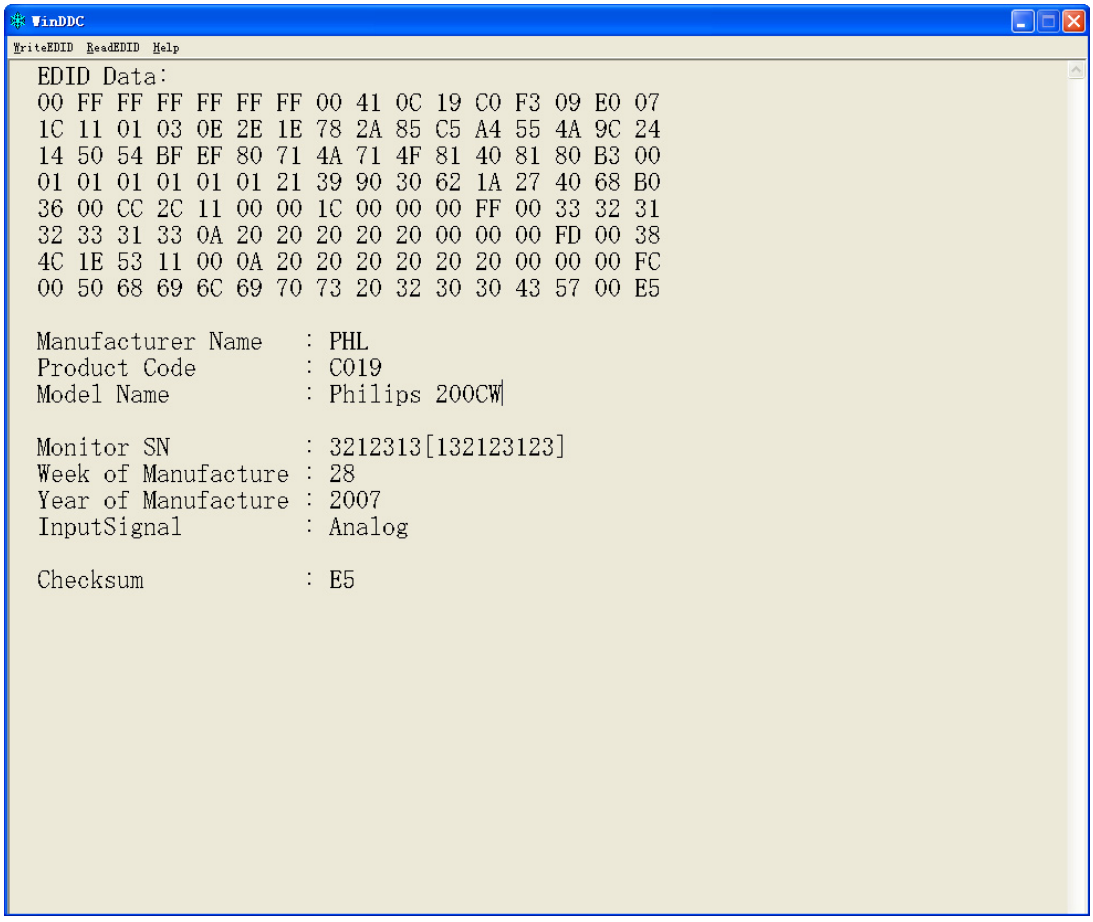
3. Connect the DDC board as follow:


When you write analog EDID, Connect this port to the Philips 200CW8's VGA port
12V Input
Connect to the PC LPT
When you write digital EDID, Connect this port to the Philips 200CW8's DVI port

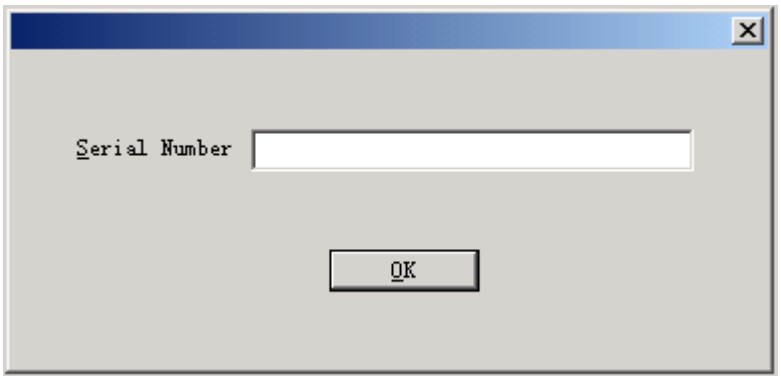
4. Take analog DDC write for example, as follow



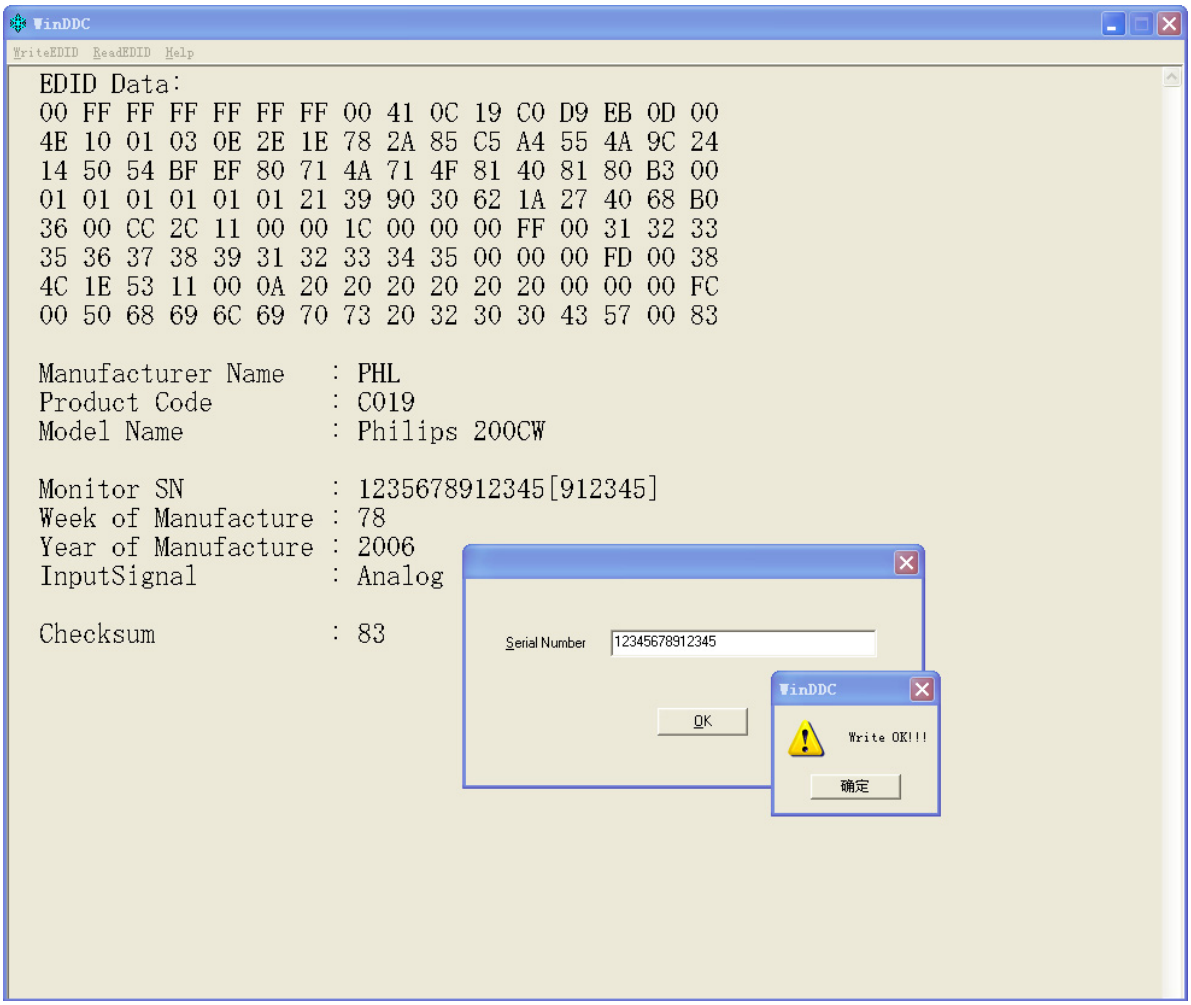
a. Double-click WinDDC.exe，appear as follow Figs：



b. Click WriteEDID.



c. Key 14 numbers in the Serial Number blank, then click “OK”. Now analog DDC Write completes, as follow.



Note: The way of digital DDC write is the same as analog DDC write.

200CW8 EDID

Analog

128 bytes EDID Data (Hex):

```
        x0 x1 x2 x3 x4 x5 x6 x7 x8 x9 xA xB xC xD xE xF

0:      00 FF FF FF FF FF FF 00 41 0C 19 C0 03 C4 04 00
10:     0C 0D 01 03 0E 2E 1E 78 2A 85 C5 A4 55 4A 9C 24
20:     14 50 54 BF EF 80 71 4A 71 4F 81 40 81 80 B3 00
30:     01 01 01 01 01 01 21 39 90 30 62 1A 27 40 68 B0
40:     36 00 CC 2C 11 00 00 1C 00 00 00 FF 00 31 32 33
50:     32 33 31 32 33 31 32 33 32 33 00 00 00 FD 00 38
60:     4C 1E 53 11 00 0A 20 20 20 20 20 20 00 00 00 FC
70:     00 50 68 69 6C 69 70 73 20 32 30 30 43 57 00 EA
```

Decoded EDID data

```
        <---Header--->

                Header: 00 FF FF FF FF FF FF 00

        <-x-Header-x->

        <---Vendor/Product Identification--->
                ID Manufacturer Name:       PHL
                ID Product Code:            C019
                ID Serial Number:           03c40400
                Week of Manufacture:        12
                Year of Manufacture:        2003
        <-x-Vendor/Product Identification-x->

        <---EDID Structure Version/Revision--->
                EDID Version#:              01
                EDID Revision#:             03
        <-x-EDID Structure Version/Revision-x->

        <---Basic Display Parameters/Features--->
                Video i/p definition:       Analog
                Signal Level Standard:      0.700V/0.300V(1.000Vpp)
                Setup:                      Blank-to-Black not expected
                Separate Sync Support:      Yes
                Composite Sync Support:     Yes
                Sync. on green video supported:Yes
                Serration of the Vsync.Pulse is not required.
                Max. H. Image Size :        46cm.
                Max. V. Image Size :        30cm.
                Display Gamma:              2.2
                DPMS Features, Stand-by:No.
                DPMS Features, Suspend:     No.
                DPMS Features, Active off:Yes.
                Display Type:    R.G.B color display.
                Standard Default Color Space:   R.G.B color.
                Preferred Timing Mode:      In First Detailed Timing.
                GTF supported: No.
        <---Basic Display Parameters/Features--->

        <---Color Characteristics--->
                Red x:              0.6425781250
                Red y:              0.3320312500
```

```
        Green x:            0.2890625000
        Green y:            0.6103515625
        Blue x:             0.1435546875
        Blue y:             0.0781250000
        White x:            0.3125000000
        White y:            0.3291015625
<-x-Color Characteristics-x->

<---Established Timings--->
Established Timings 1:   BF
         -720x400 @70Hz VGA,IBM
         -640x480 @60Hz VGA,IBM
         -640x480 @67Hz Apple,Mac II
         -640x480 @72Hz VESA
         -640x480 @75Hz VESA
         -800x600 @56Hz VESA
         -800x600 @60Hz VESA
Established Timings 2:   EF
         -800x600   @72Hz VESA
         -800x600   @75Hz VESA
         -832x624   @75Hz Apple,Mac II
        -1024x768   @60Hz VESA
        -1024x768   @70Hz VESA
        -1024x768   @75Hz VESA
        -1280x1024 @75Hz VESA
Established Timings 3:   80
        -1152x870   @75Hz Apple,Mac II
<-x-Established Timings-x->

<---Standard Timing Identification--->
        -1152x864 @70 Hz
        -1152x864 @75 Hz
        -1280x960@60 Hz
        -1280x1024      @60 Hz
        -1680x1050      @60 Hz
<-x-Standard Timing Identification-x->

<---Detailed Timing Descriptions--->
Detailed Timing:            1680x1050 @   60Hz.
<-x-Detailed Timing Descriptions-x->

<---Detailed Timing Descriptions--->
Detailed Timing:FF (Monitor SN) '123231231232'
Detailed Timing:FD (Monitor limits)
        Min. V. rate:     56Hz
        Max. V. rate:     76Hz
        Min. H. rate:     30KHz
        Max. H. rate:     83KHz
        Max. Pixel Clock:           170MHz
Detailed Timing:            FC (Monitor Name) 'Philips 200CW'
<-x-Detailed Timing Descriptions-x->

Extension Flag:             00
Checksum:                     EA
```

200CW8 EDID

Digital

128 bytes EDID Data (Hex):

```
        x0 x1 x2 x3 x4 x5 x6 x7 x8 x9 xA xB xC xD xE xF

0:      00 FF FF FF FF FF FF 00 41 0C 19 C0 03 C4 04 00
10:     0C 0B 01 03 80 2E 1E 78 2A 85 C5 A4 55 4A 9C 24
20:     14 50 54 BF EF 80 71 4A 71 4F 81 40 81 80 B3 00
30:     01 01 01 01 01 01 21 39 90 30 62 1A 27 40 68 B0
40:     36 00 CC 2C 11 00 00 1C 00 00 00 FF 00 32 33 31
50:     33 31 31 32 33 31 32 33 32 33 00 00 00 FD 00 38
60:     4C 1E 53 11 00 0A 20 20 20 20 20 20 00 00 00 FC
70:     00 50 68 69 6C 69 70 73 20 32 30 30 43 57 00 7B
```

Decoded EDID data

```
        <---Header--->

                Header: 00 FF FF FF FF FF FF 00

        <-x-Header-x->

        <---Vendor/Product Identification--->
                ID Manufacturer Name:       PHL
                ID Product Code:            C019
                ID Serial Number:           03c40400
                Week of Manufacture:        12
                Year of Manufacture:        2001
        <-x-Vendor/Product Identification-x->

        <---EDID Structure Version/Revision--->
                EDID Version#:              01
                EDID Revision#:             03
        <-x-EDID Structure Version/Revision-x->

        <---Basic Display Parameters/Features--->
                Video i/p definition:       Digital
                Max. H. Image Size :        46cm.
                Max. V. Image Size :        30cm.
                Display Gamma:              2.2
                DPMS Features, Stand-by:    No.
                DPMS Features, Suspend:     No.
                DPMS Features, Active off:  Yes.
                Display Type:    R.G.B color display.
                Standard Default Color Space:   R.G.B color.
                Preferred Timing Mode:      In First Detailed Timing.
                GTF supported:  No.
        <---Basic Display Parameters/Features--->

        <---Color Characteristics--->
                Red x:              0.6425781250
                Red y:              0.3320312500
                Green x:            0.2890625000
                Green y:            0.6103515625
                Blue x:             0.1435546875
                Blue y:             0.0781250000
                White x:            0.3125000000
                White y:            0.3291015625
        <-x-Color Characteristics-x->
```

<---Established Timings--->
Established Timings 1: BF
-720x400 @70Hz VGA,IBM
-640x480 @60Hz VGA,IBM
-640x480 @67Hz Apple,Mac II
-640x480 @72Hz VESA
-640x480 @75Hz VESA
-800x600 @56Hz VESA
-800x600 @60Hz VESA
Established Timings 2: EF
-800x600 @72Hz VESA
-800x600 @75Hz VESA
-832x624 @75Hz Apple,Mac II
-1024x768 @60Hz VESA
-1024x768 @70Hz VESA
-1024x768 @75Hz VESA
-1280x1024 @75Hz VESA
Established Timings 3: 80
-1152x870 @75Hz Apple,Mac II
<-x-Established Timings-x->

<---Standard Timing Identification--->
-1152x864 @70 Hz
-1152x864 @75 Hz
-1280x960 @60 Hz
-1280x1024 @60 Hz
-1680x1050 @60 Hz
<-x-Standard Timing Identification-x->

<---Detailed Timing Descriptions--->
Detailed Timing: 1680x1050 @ 60Hz.
<-x-Detailed Timing Descriptions-x->

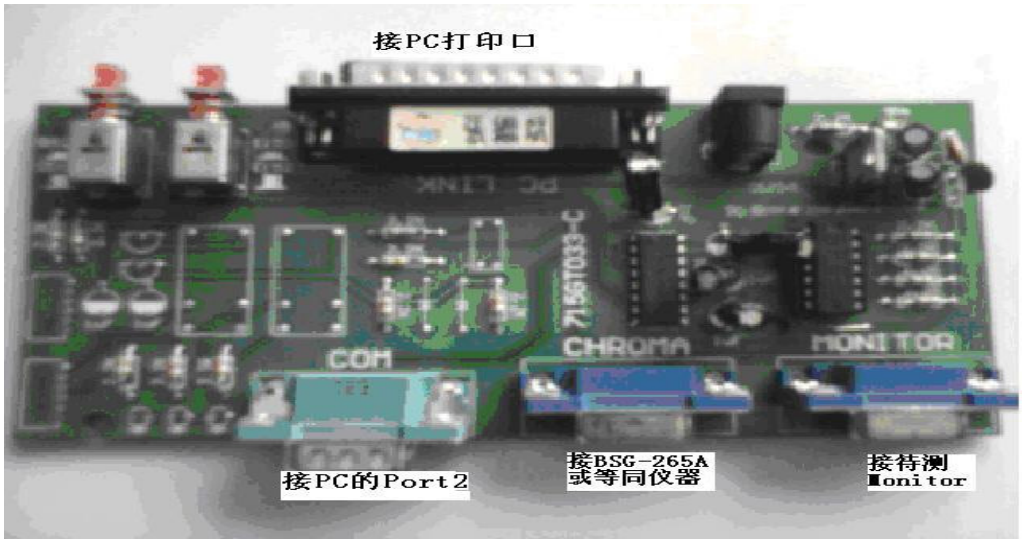
<---Detailed Timing Descriptions--->
Detailed Timing:FF (Monitor SN) '231311231232'
Detailed Timing:FD (Monitor limits)
Min. V. rate: 56Hz
Max. V. rate: 76Hz
Min. H. rate: 30KHz
Max. H. rate: 83KHz
Max. Pixel Clock: 170MHz
Detailed Timing: FC (Monitor Name) 'Philips 200CW'
<-x-Detailed Timing Descriptions-x->

Extension Flag: 00
Checksum: 7B

14. White Balance, Luminance Adjustment

1. Apparatuses and program: analyzer CA-210, PC, tool, FGA adjustment program (FGAWB0.15SN), Pattern generator.
2. Equipment installation:
   a. Connect analyzer CA-210 to PC by USB connector, install drive program CA-SDK Ver4.00 for CA-210 and restart PC after finish installing.
   b. Install Port95NT drive program, set PC printer connector mode as ECP mode and restart PC after finish installing.
   c. Connect tools as follow:

   (Note: It is not necessary to connect Port2)



3. Adjustment

Preparation before adjustment:

(1) Monitor should be warmed up for more than half an hour.

(2) Make sure that the tools are connected right and drive programs have been installed OK.

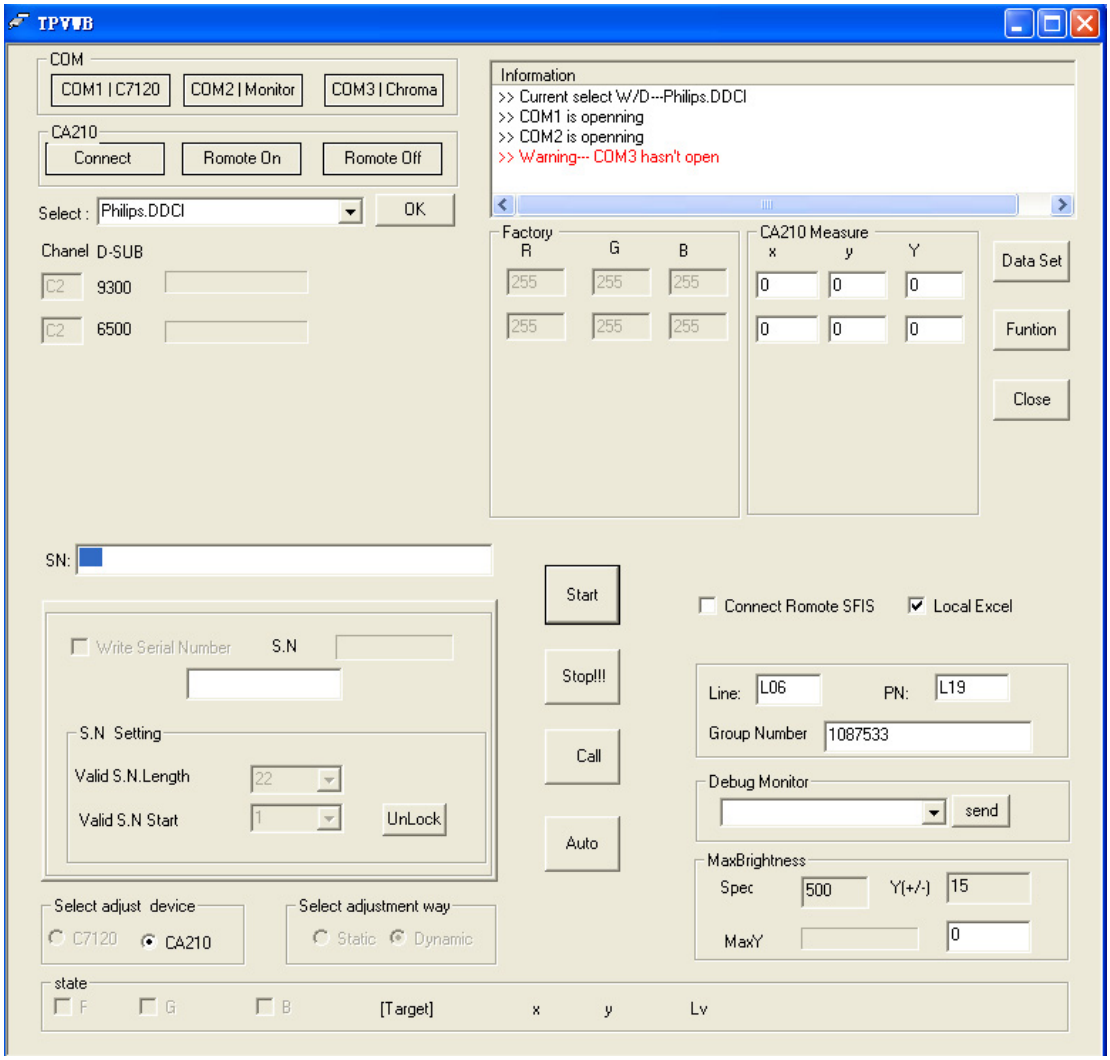
Adjustment process:

(1) Press the power of CA-210, shut off the lens, press 0-Cal and open the lens after analyzer reset.

(2) Start white balance adjustment program, select the right parameter according with the program and click OK.

(3) Make sure that the lens of CA-210 aims at the center of the screen, then click Start and start adjusting.

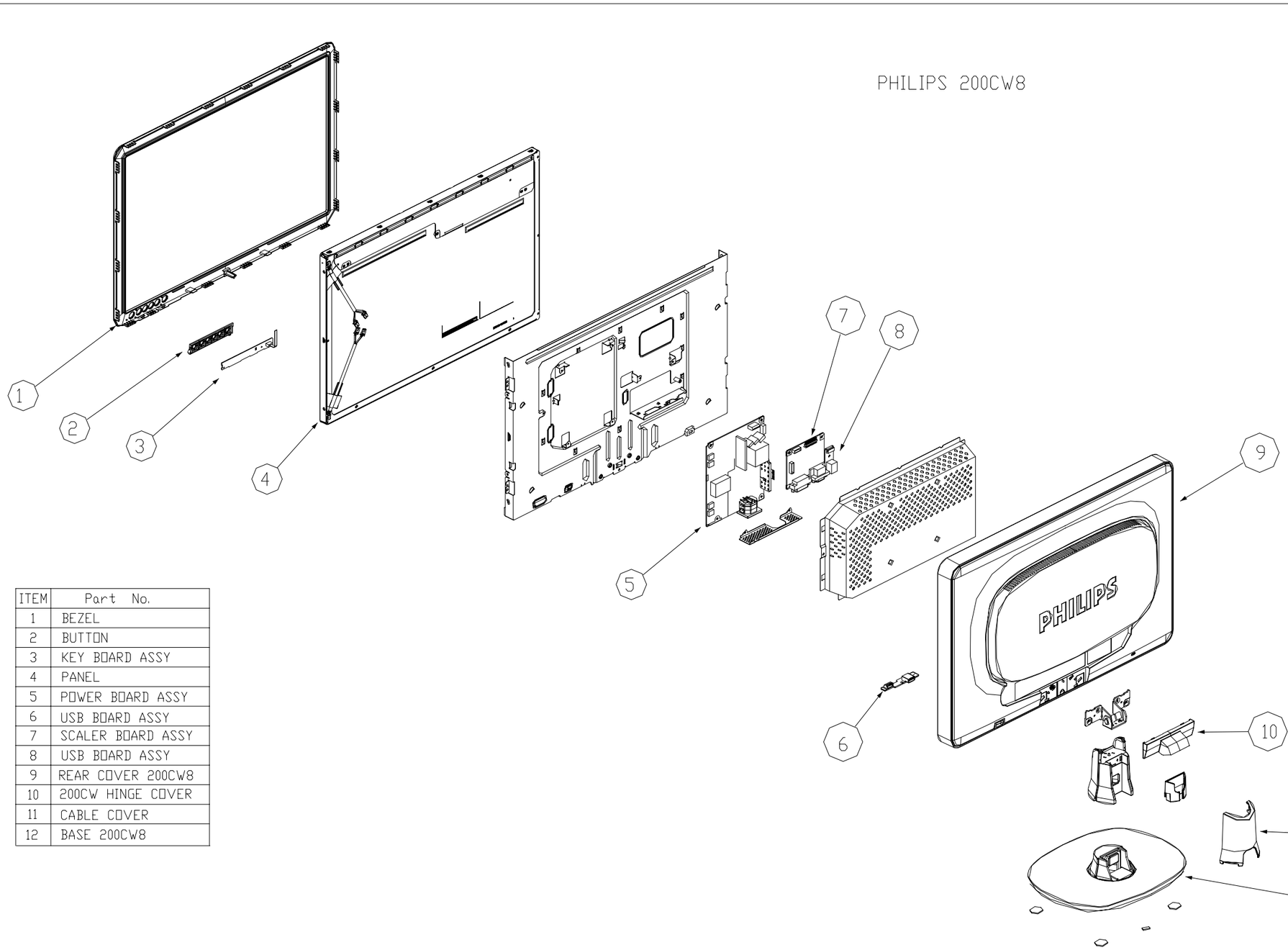
(4) After finish adjusting, the adjustment program displays pass, and the Start Button is changed to Next, which means you can adjust another monitor.



4. Color Temp confirmation

Connect the signal to the monitor, the monitor display white-picture, use CA-210 to measure the Color Temp of the screen center and select the OSD to make sure whether the Color Temps accord with the SPEC.

15. Monitor Exploded View



ITEM	Part No.
1	BEZEL
2	BUTTON
3	KEY BOARD ASSY
4	PANEL
5	POWER BOARD ASSY
6	USB BOARD ASSY
7	SCALER BOARD ASSY
8	USB BOARD ASSY
9	REAR COVER 200CW8
10	200CW HINGE COVER
11	CABLE COVER
12	BASE 200CW8

16. Recommended & Spare Parts List

Recommended Parts List

200CW8FB/69

Item	Location	Part No.	Description	Philips 12NC
1	FQ014	A34G0456ADTA1T0100	BEZEL 200CW8	996510009122
2	FQ012	A33G0234BAFA1C	BUTTON	996510009120
3	FQ024	KEPC7QM5	KEY BOARD ASSY	996510009145
4	FQ009	750GLCA1WA413M000F	PANEL CLAA201WA04 000 FZ CPT	996510009118
4	FQ029	750GLGA1W3H21M000F	PANEL LM201WE3-TLH2 KR LPL	996510009164
5	FQ025	PWPCU41CR1	POWER BOARD ASSY(CPT)	996510009148
5	FQ031	PWPCU41GR1	POWER BOARD ASSY(LPL)	996510009162
6	FQ027	USB7AA7	USB BOARD ASSY	996510007203
7	FQ030	CBPC7LMAPHA1	SCALER BOARD ASSY(LPL)	996510009160
7	FQ023	CBPC7CMAPHA2	SCALER BOARD ASSY(CPT)	996510009127
8	FQ026	USB7AA2	USB BOARD ASSY	996510007202
9	FQ032	705GQ734486	20 REAR COVER ASS'Y	996510009116
10	FQ013	A33G0254ADT 1L0100	200CW HINGE COVER	996510009121
11	FQ011	A33G0233ADT 1L 32	CABLE COVER	996510009119
12	FQ033	705GQ734487	STAND-BASE ASS'Y	996510009117
	FQ001	089G 175 8	USB CABLE	996500037287
	FQ002	089G 728HAA 21	SIGNAL CABLE	996510005679
	FQ003	089G179E30H 22	FFC CABLE(CPT)	996510009113
	FQ028	089G179E30H 21	FFC CABLE(LPL)	996510009163
	E08901	089G410A18N IS	POWER CORD	996500037340
	FQ006	095G8014 5D 57	HARNESS 5P-5P 510 MM	996510009114
	E09501	095G8014 7D525	WIRE HARNESS 7P-7P 320MM	996510009115
	FQ018	Q40G 20N813 1A	RATING LABEL	
	FQ019	Q44GA040 1	CUSHION	996510009123
	FQ020	Q44GA040 2	CUSHION	996510009124
	FQ034	Q44GA040 4	CUSHION	996510009125
	FQ021	Q44GA040813 3A	20 LCD PHILIPS CARTON	996510009126
	FQ022	Q70G2007813 1A	CD MANUAL	
	U401	056G 562182	IC PUMO58CWHJ-LF PQFP-128	996510009132
	U701	056G 563 50	IC AP1117D18LA TO252-3L ATC	996510007208
	U702	056G 563 52	IC AP1117D33LA TO252-3L ATC	996510005697
	U405	056G1133 84	AF24BC02-S1	996510009133
	U404	056G1133 84	AF24BC02-S1	996510009133

	U403	056G1133 89	IC AF24BC16-SI 16K SOIC-8	996510006453
	U402	705GQ756079	U402 ASS'Y(CPT)	996510009144
	U402	705GQ756077	U402 ASS'Y(LPL)	996510009161
	IC903	056G 139 3A	IC PC123Y22FZ0F	996510009148
	IC901	056G 379 76	IC LD7552BPS SOP-8	996510009148
	IC801	056G 608 10	IC OZ9938GN-B SOIC-16	996510009148
	IC904	056G 158 12	KIA431A-AT/P TO-92	996510009148
	FQ026	USB7AA2	USB BOARD ASSY	996510007202
	FQ027	USB7AA7	USB BOARD ASSY	996510007203

Spare Parts List

Service Kit

Description	Part No.	Philips 12NC	Remark
DDC Kit	715L2005C2	9965 000 43197	for all model
OSD SN Kit	715GT033 C	9965 000 43252	for all model
NOVATEK ISP Kit	715LT035A	9965 000 43198	for all hudson 7
			for 170A8, 190B8, 150S8, 170S8,190S8, 170V8,190V8
MSTAR ISP Kit	715GT039 A	996510010027	200CW8
REALTEK ISP Kit	715GT039 A	996510010027	170CW8

200CW8FB/69

Panel

Location	Part No.	Description	Philips 12NC
FQ009	750GLCA1WA413M000F	PANEL CLAA201WA04 000 FZ CPT	996510009118
FQ029	750GLGA1W3H21M000F	PANEL LM201WE3-TLH2 KR LPL	996510009164

Board ASS'Y

Location	Part No.	Description	Philips 12NC
FQ030	CBPC7LMAPHA1	SCALER BOARD ASSY(LPL)	996510009160
FQ023	CBPC7CMAPHA2	SCALER BOARD ASSY(CPT)	996510009127
FQ025	PWPCU41CR1	POWER BOARD ASSY(CPT)	996510009148
FQ031	PWPCU41GR1	POWER BOARD ASSY(LPL)	996510009162
FQ024	KEPC7QM5	KEY BOARD ASSY	996510009145
FQ026	USB7AA2	USB BOARD ASSY	996510007202
FQ027	USB7AA7	USB BOARD ASSY	996510007203

Location	Part No.	Description	Philips 12NC
FQ001	089G 175 8	USB CABLE	996500037287
FQ002	089G 728HAA 21	SIGNAL CABLE	996510005679
FQ003	089G179E30H 22	FFC CABLE(CPT)	996510009113
FQ028	089G179E30H 21	FFC CABLE(LPL)	996510009163
E08901	089G410A18N IS	POWER CORD	996500037340
FQ006	095G8014 5D 57	HARNESS 5P-5P 510 MM	996510009114
E09501	095G8014 7D525	WIRE HARNESS 7P-7P 320MM	996510009115
FQ032	705GQ734486	20 REAR COVER ASS'Y	996510009116
FQ033	705GQ734487	STAND-BASE ASS'Y	996510009117
FQ009	750GLCA1WA413M000F	PANEL CLAA201WA04 000 FZ CPT	996510009118
FQ029	750GLGA1W3H21M000F	PANEL LM201WE3-TLH2 KR LPL	996510009164
FQ011	A33G0233ADT 1L 32	CABLE COVER	996510009119
FQ012	A33G0234BAFA1C	BUTTON	996510009120
FQ013	A33G0254ADT 1L0100	200CW HINGE COVER	996510009121
FQ014	A34G0456ADTA1T0100	BEZEL 200CW8	996510009122
FQ018	Q40G 20N813 1A	RATING LABEL	
FQ019	Q44GA040 1	CUSHION	996510009123
FQ020	Q44GA040 2	CUSHION	996510009124
FQ034	Q44GA040 4	CUSHION	996510009125
FQ021	Q44GA040813 3A	20 LCD PHILIPS CARTON	996510009126
FQ022	Q70G2007813 1A	CD MANUAL	

Board Parts

Location	Part No.	Description	Philips 12NC
FQ023	CBPC7CMAPHA2	SCALER BOARD ASSY(CPT)	996510009127
C401	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C402	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C403	067G215Y479 7N	LOW ESR EC 4.7 UF 50V NCC	996500035959
C404	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C405	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C406	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C407	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C408	067G305V100 3	105DEG 10UF -20% 16V	996500037413
C409	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C410	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C411	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C412	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C413	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C414	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C415	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C416	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C417	065G0402224A5T	MLCC 0402 0.22UF K 10V X5R	996500035990
C418	067G305V100 3	105DEG 10UF -20% 16V	996500037413
C419	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C420	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C421	065G0402220 31	CHIP 22PF 50V NPO	996510005717
C422	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C423	065G0402220 31	CHIP 22PF 50V NPO	996510005717
C424	065G0402105 A5	CAP 0402 1UF K 10V X5R	996510007379
C425	065G0402224A5T	MLCC 0402 0.22UF K 10V X5R	996500035990
C426	065G0402105 A5	CAP 0402 1UF K 10V X5R	996510007379
C427	065G0402105 A5	CAP 0402 1UF K 10V X5R	996510007379
C428	065G0402105 A5	CAP 0402 1UF K 10V X5R	996510007379
C429	065G0402105 A5	CAP 0402 1UF K 10V X5R	996510007379
C430	065G0402105 A5	CAP 0402 1UF K 10V X5R	996510007379
C432	065G0402473 12	CHIP 0.047UF 16V X7R	996510005721
C433	065G0402473 12	CHIP 0.047UF 16V X7R	996510005721
C434	065G0402473 12	CHIP 0.047UF 16V X7R	996510005721
C435	065G0402102 32	1000PF +-10% 50V X7R	996510005715
C436	065G0402473 12	CHIP 0.047UF 16V X7R	996510005721
C437	065G0402473 12	CHIP 0.047UF 16V X7R	996510005721
C438	065G0402473 12	CHIP 0.047UF 16V X7R	996510005721
C439	065G0402473 12	CHIP 0.047UF 16V X7R	996510005721

C440	065G0402473 12	CHIP 0.047UF 16V X7R	996510005721
C441	065G0402473 12	CHIP 0.047UF 16V X7R	996510005721
C442	065G0402220 31	CHIP 22PF 50V NPO	996510005717
C443	065G0402221 32	MLCC 0402 CAP 220PF J 50V X7R	996510009140
C444	065G0402224 A5	MLCC 0402 CAP 0.22UF K 10V X5R	996510007216
C445	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C446	065G0402224 A5	MLCC 0402 CAP 0.22UF K 10V X5R	996510007216
C447	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C448	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C449	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C450	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C451	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C452	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C453	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C454	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C455	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C456	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C457	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C458	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C459	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C460	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C461	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C464	067G305V220 3	105 J 22UF +-20% 16V	996510009130
C702	067G305V100 3	105DEG 10UF -20% 16V	996500037413
C709	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C710	067G215V101 4N	KY25VB100M-CC3(6.3 11)	996510006520
C711	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C712	067G305V100 3	105DEG 10UF -20% 16V	996500037413
C713	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C714	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C717	067G305V100 4	10UF +-20% 25V	996510009129
C719	065G0603105 12	CHIP 1UF 16VX7R 0603	996510002499
C720	067G215Y479 7N	LOW ESR EC 4.7 UF 50V NCC	996500035959
C721	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C724	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
C725	065G0402104 12	CHIP 0.1UF 50V X7R	996510005716
D403	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D404	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D405	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D406	093G 39S 24 T	RLZ 5.6B LLDS	996500036079

D407	093G 64 42 PP	BAV70 SOT-23	996500035995
D408	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
D409	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
D410	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
D411	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
D412	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
D413	093G 64 42 PP	BAV70 SOT-23	996500035995
D414	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
D415	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
D416	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
D417	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D418	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D419	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D420	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D421	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D422	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D423	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D424	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D425	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
D426	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
D704	093G2004 3	SSM24PT	996510009143
Q401	057G 417 13 T	KEC 2N3906S-RTK/PS	996500035967
Q402	057G 417 12 T	KEC 2N3904S-RTK/PS	996500036961
Q403	057G 417 13 T	KEC 2N3906S-RTK/PS	996500035967
Q409	057G 417 13 T	KEC 2N3906S-RTK/PS	996500035967
Q701	057G 417 12 T	KEC 2N3904S-RTK/PS	996500036961
Q703	057G 417 12 T	KEC 2N3904S-RTK/PS	996500036961
Q704	057G 763501	FET AM2321P ANALOG POWER	996510009134
Q705	057G 417 13 T	KEC 2N3906S-RTK/PS	996500035967
R403	061G0402390 0F	RST CHIP 390R 1/16W 1%	996510007212
R404	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R405	061G0402223	RST CHIPR 22 KOHM +5% 1/16W	996510007211
R406	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R408	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R409	061G0402121	RST CHIP 120R 1/16W 5%	996510007376
R411	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R413	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R414	061G0402121	RST CHIP 120R 1/16W 5%	996510007376
R415	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R418	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701

R419	061G0402000	RST CHIPR 0 OHM +-5% 1/16W	996510005699
R420	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R421	061G0402000	RST CHIPR 0 OHM +-5% 1/16W	996510005699
R422	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R423	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R424	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R425	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R426	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R427	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R428	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R429	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R434	061G0402560	RST CHIP 56R 1/16W 5%	996510009139
R435	061G0402560	RST CHIP 56R 1/16W 5%	996510009139
R436	061G0402560	RST CHIP 56R 1/16W 5%	996510009139
R437	061G0402471	RST CHIPR 470 OHM +-5% 1/16W	996510005710
R438	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	996510005713
R439	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	996510005713
R440	061G0402750	RST CHIPR 75 OHM +-5% 1/16W	996510005713
R441	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R442	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R443	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R444	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R445	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R446	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R447	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R448	061G0402222	RST CHIPR 2.2 KOHM +-5% 1/16W	996510005707
R449	061G0402222	RST CHIPR 2.2 KOHM +-5% 1/16W	996510005707
R450	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R451	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R452	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R453	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R454	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R455	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R456	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R457	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R458	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R459	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R460	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R461	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R462	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700

R463	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R464	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R465	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R466	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R467	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R468	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R469	061G0402100	RST CHIPR 10 OHM +-5% 1/16W	996510005700
R470	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R471	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R474	061G0402392	RST CHIP 3.9K 1/16W 5%	996510005709
R475	061G0402392	RST CHIP 3.9K 1/16W 5%	996510005709
R486	061G0402332	RST CHIPR 3.3KOHM +-5% 1/16W	996510009138
R487	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R488	061G0402101	RST CHIPR 100 OHM +-5% 1/16W	996510005701
R491	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R493	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R494	061G0402331 Y	RST CHIP 330R 1/16W 5%	996510009137
R495	061G0402471	RST CHIPR 470 OHM +-5% 1/16W	996510005710
R499	061G0402000	RST CHIPR 0 OHM +-5% 1/16W	996510005699
R501	061G0402200	RST CHIP 20R 1/16W 5%	996510009136
R502	061G0402200	RST CHIP 20R 1/16W 5%	996510009136
R701	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R705	061G0402102	RST CHIPR 1 KOHM +-5% 1/16W	996510005702
R707	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R708	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R709	061G0402153	RST CHIP 15K 1/16W 5%	996510009135
R711	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R712	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R714	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R717	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R718	061G153M339 59	RST MOFR 3.3 OHM +-5% 3WS	996510009128
R719	061G1206221	RST CHIPR 220 OHM +5% 1/4W	996510007258
R720	061G1206221	RST CHIPR 220 OHM +5% 1/4W	996510007258
R723	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
R725	061G0402472	RST CHIPR 4.7 KOHM +-5% 1/16W	996510005711
R727	061G0402103	RST CHIPR 10 KOHM -5% 1/16W	996500044984
U401	056G 562182	IC PUMO58CWHJ-LF PQFP-128	996510009132
U402	705GQ756079	U402 ASSY(CPT)	996510009144
U403	056G1133 89	IC AF24BC16-SI 16K SOIC-8	996510006453
U404	056G1133 84	AF24BC02-S1	996510009133

U405	056G1133 84	AF24BC02-S1	996510009133
U701	056G 563 50	IC AP1117D18LA TO252-3L ATC	996510007208
U702	056G 563 52	IC AP1117D33LA TO252-3L ATC	996510005697
X401	093G 2253B J	14.31818MHZ/85C	996510009131
CN405	088G 35315F H	D-SUB 15PIN	996500035960
CN406	088G 35424F N	DVI 24PIN CONN F	996510005695
FB401	071G 56Z601	CHIP BEAD 600 OHM 0805	996510009141
FB402	071G 56Z601	CHIP BEAD 600 OHM 0805	996510009141
FB403	071G 56Z601	CHIP BEAD 600 OHM 0805	996510009141
FB404	071G 56Z601	CHIP BEAD 600 OHM 0805	996510009141
FB405	071G 56Z601	CHIP BEAD 600 OHM 0805	996510009141
FB406	071G 56Z601	CHIP BEAD 600 OHM 0805	996510009141
FB409	071G 59B121	TB160808B	996510009142
FB410	071G 59B300 K	BEAD 30	996500036934
FB411	071G 59B300 K	BEAD 30	996500036934
FB412	071G 59B300 K	BEAD 30	996500036934
FB701	071G 56K121	CHIP BEAD	996500035993
FB702	071G 56K121	CHIP BEAD	996500035993
FQ024	KEPC7QM5	KEY BOARD ASSY	996510009145
C001	065G0402103 22	CHIP 0.01UF 25V X7R	996510007226
C002	065G0402103 22	CHIP 0.01UF 25V X7R	996510007226
C003	065G0402103 22	CHIP 0.01UF 25V X7R	996510007226
C004	065G0402103 22	CHIP 0.01UF 25V X7R	996510007226
C005	065G0402103 22	CHIP 0.01UF 25V X7R	996510007226
C006	065G060310517T	MLCC 0603 CAP 1UF Z 16V Y5V	996510005722
D001	093G 39S 34 T	UDZS5.6B	996500035996
D002	093G 39S 34 T	UDZS5.6B	996500035996
D003	093G 39S 34 T	UDZS5.6B	996500035996
R001	061G0603430 1F	RST CHIPR 4.3 KOHM +-1% 1/10W	996510005736
R002	061G0603910 0F	RST CHIPR 910 OHM +-1% 1/10W	996510005737
R003	061G0603240 1F	RST CHIPR 2.4 KOHM +-1% 1/10W	996510005735
R007	061G0603430 1F	RST CHIPR 4.3 KOHM +-1% 1/10W	996510005736
R008	061G0603910 0F	RST CHIPR 910 OHM +-1% 1/10W	996510005737
CN001	033G8034 7A	WAFER 7 PLUG	996510009147
SW001	077G 500 6 E	DOME SWITCH	996510009146
LED001	081G 14501 KT	CHIP LED	996510007227
LED002	081G0603 B KB	KP-1608QBC-C-AOC 5MA	996510007228
FQ025	PWPCU41CR1	POWER BOARD ASSY(CPT)	996510009148
C801	065G0805473 32	CHIP 0.047UF 50V X7R	996500036045
C802	065G0805473 32	CHIP 0.047UF 50V X7R	996500036045

C804	065G0805225 12	CHIP 2.2UF 16V X7R 0805	996510006267
C805	065G0603103 12	CHIP 0.01UF 16V X7R	996510007262
C806	065G0603105 12	CHIP 1UF 16VX7R 0603	996510002499
C807	065G0603103 12	CHIP 0.01UF 16V X7R	996510007262
C808	061G0603184	RST CHIPR 180 KOHM +5% 1/10W	996510007252
C809	065G080556131G	MLCC 0805 560PF G 50V NPO	996500043890
C810	065G0603473 32	CHIP 0.047UF 50V X7R	996500036921
C811	065G0805104 32	CHIP 0.1U 50V X7R	996500036041
C812	067G215H102 4K	LOW ESR EC 1000UF 25V EB1E102M	996500043836
C813	065G0603333 32	0.033UF/50V	996510009157
C814	065G080539131J Y	CAP CHIP 0805 390P 50V NPO 5%	996510007267
C815	065G0603473 32	CHIP 0.047UF 50V X7R	996500036921
C816	065G 6J1206ET	12PF 5% SL 6KV TDK	996510009153
C817	065G 3J2096ET	2PF 5% SL 3KV	996500036005
C818	065G0603221 31	CER1 0603 NP0 50V 220P PM5 R	996500037789
C820	065G 3J6806ET	CAP CER 68PF J 3KV SL	996510009152
C821	065G 3J6806ET	CAP CER 68PF J 3KV SL	996510009152
C822	065G 3J6806ET	CAP CER 68PF J 3KV SL	996510009152
C900	065G306M3322BP	3300PF 20%	996510007234
C901	065G306M1022BP	1000PF Y1.CAP	996510006237
C902	065G306M1022BP	1000PF Y1.CAP	996510006237
C903	063G107K474 US	0.47UF +-10%	996510007384
C905	067G 40J10115K	EC CAP 100UF 450V 18*35MM	996510006238
C906	065G 2K152 1T6213	CAP CER 1500PF K 2KV	996510007275
C907	065G0805104 32	CHIP 0.1U 50V X7R	996500036041
C908	067G215Y2207KT	ED 105_22UF M 50V KINGNICHI	996500036048
C909	065G0805471 21	CHIP 470PF 25V NPO	996510002754
C912	065G1206102 72	CHIP 1000PF 500V X7R	996500039773
C915	067G215D4713KV	ELCAP 105 J 470UF M 16V	996510007235
C917	067G215D6814KV	CAP 105_J 680UF M 25V	996510006240
C918	067G215D6814KV	CAP 105_J 680UF M 25V	996510006240
C921	065G306M3322BP	3300PF 20%	996510007234
C924	065G0805104 32	CHIP 0.1U 50V X7R	996500036041
C928	065G0805102 31	1000PF 50V NPO	996500036991
C929	065G1206102 72	CHIP 1000PF 500V X7R	996500039773
C931	065G0805104 32	CHIP 0.1U 50V X7R	996500036041
C932	065G0603102 32	1000PF -10% 50V X7R	996500037517
C933	065G0805104 32	CHIP 0.1U 50V X7R	996500036041
C939	067G215S1024KV	EC 105 J CAP 1000UF M 25V	996510007236
D801	093G 6432V	DIODE LL4148 GS08	996510002831

D802	093G 6432V	DIODE LL4148 GS08	996510002831
D803	093G 6432V	DIODE LL4148 GS08	996510002831
D804	093G 6432V	DIODE LL4148 GS08	996510002831
D805	093G 6432V	DIODE LL4148 GS08	996510002831
D806	093G 64 42 PP	BAV70 SOT-23	996500035995
D807	093G 64 42 PP	BAV70 SOT-23	996500035995
D808	093G 64 42 PP	BAV70 SOT-23	996500035995
D809	093G 64 33	DIO SIG SM BAV99 (PHSE)R	996500035994
D900	093G1100 1052T	BA159GPT DO-41 CHENMKO	996510007274
D901	093G 6038T52T	FR103	996500036095
D903	093G 6432V	DIODE LL4148 GS08	996510002831
D906	093G 60245	SP10150	996500036034
D907	093G3006 1 1	31DQ06FC3 NIHON INTER	996510006253
F901	084G 56 4W	FUSE 4.0A 250V	996510006276
L801	073G 174 63DNA	LINE FILTER LK.3711D.101	996510007239
L802	073G 174 63DNA	LINE FILTER LK.3711D.101	996510007239
L902	073L 174 26H1G	LINE FILTER	996510007242
L903	073G 253 91 H	CHOKE COIL	996500036026
L904	073G 253 91 H	CHOKE COIL	996500036026
Q801	057G 417 4	PMBS3904/PHILIPS-SMT(04)	996500035966
Q802	057G 763904	TRA FET 2N7002 SOT-23 PHILIPS	996500042651
Q803	057G 763904	TRA FET 2N7002 SOT-23 PHILIPS	996500042651
Q805	057G 600 61	AM4502C-TI-PF S0-8	996510007251
Q806	057G 600 61	AM4502C-TI-PF S0-8	996510007251
Q901	057G 667 21	STP10NK70ZFP	996500039743
Q903	057G 417 4	PMBS3904/PHILIPS-SMT(04)	996500035966
R801	061G0603242	RST CHIPR 2.4 KOHM +-5% 1/10W	996510006258
R802	061G0805220	22&8 1/10W	996500043388
R804	061G0805512	RST CHIPR 5.1 KOHM +5% 1/8W	996510007256
R805	061G0603101	RST CHIPR 100 OHM -5% 1/10W	996500042213
R806	061G0805101	RST CHIPR 100 OHM -5% 1/8W	996500043379
R807	061G0603101	RST CHIPR 100 OHM -5% 1/10W	996500042213
R808	061G0805101	RST CHIPR 100 OHM -5% 1/8W	996500043379
R813	061G0603474	RST CHIPR 470 KOHM -5% 1/10W	996500042665
R816	061G0603100 2F	RST CHIPR 10 KOHM -1% 1/10W	996500042395
R817	061G0603105	RST CHIPR 1 MOHM -5% 1/10W	996500042216
R818	061G0603104	RST CHIPR 100 KOHM -5% 1/10W	996500042215
R819	061G0603104	RST CHIPR 100 KOHM -5% 1/10W	996500042215
R820	061G0603103	RST CHIPR 10 KOHM -5% 1/10W	996500042214
R821	061G0603105	RST CHIPR 1 MOHM -5% 1/10W	996500042216

R822	061G0805200 2F	RST CHIPR 20 KOHM -1% 1/8W	996500043871
R823	061G0603390 0F	RST CHIP 390R 1/10W 1%	996500044263
R824	061G0603330 1F	RST CHIP 3K3 1/10W 1%	996500044831
R825	061G0603511	RST CHIPR 510 OHM -5% 1/10W	996500043967
R826	061G0603105	RST CHIPR 1 MOHM -5% 1/10W	996500042216
R828	061G212Y625 KT	MGFR 6.2MOHM -5% 1/2W	996500036083
R829	061G0805682	RST CHIPR 6.8 KOHM +5% 1/8W	996510007257
R836	061G0603513	RST CHIPR 51 KOHM +5% 1/10W	996510007254
R837	061G0603822	RST CHIPR 8.2 KOHM -5% 1/10W	996500043972
R838	061G0603105	RST CHIPR 1 MOHM -5% 1/10W	996500042216
R839	061G0603105	RST CHIPR 1 MOHM -5% 1/10W	996500042216
R840	061G0603105	RST CHIPR 1 MOHM -5% 1/10W	996500042216
R841	061G0603105	RST CHIPR 1 MOHM -5% 1/10W	996500042216
R842	061G0603103	RST CHIPR 10 KOHM -5% 1/10W	996500042214
R843	061G0603103	RST CHIPR 10 KOHM -5% 1/10W	996500042214
R844	061G0603103	RST CHIPR 10 KOHM -5% 1/10W	996500042214
R845	061G0603103	RST CHIPR 10 KOHM -5% 1/10W	996500042214
R846	061G0603000	RST CHIPR 0 OHM -5% 1/10W	996500042212
R849	061G0603000	RST CHIPR 0 OHM -5% 1/10W	996500042212
R850	061G0603104	RST CHIPR 100 KOHM -5% 1/10W	996500042215
R901	061G1206105	RST CHIP 1M 1/4W 5%	996510004386
R902	061G1206105	RST CHIP 1M 1/4W 5%	996510004386
R903	061G152M10452T	RST MOFR 100KOHM +-5% 2WS	996510009150
R904	061G1206304	300 KOHM 1/8W	996510007259
R905	061G1206304	300 KOHM 1/8W	996510007259
R906	061G1206304	300 KOHM 1/8W	996510007259
R909	061G1206519	RST CHIPR 5.1 OHM +5% 1/4W	996510007260
R910	061G1206100	RST CHIP 10R 1/4W 5%	996500043976
R912	061G1206221	RST CHIPR 220 OHM +5% 1/4W	996510007258
R914	061G152M43852T	RST MOF 0R43 5% 2W	996510009151
R915	061G0805100 3F	RST CHIPR 100KOHM +-1% 1/8W	996510006227
R918	061G1206101	100 1206	996500045142
R919	061G1206101	100 1206	996500045142
R920	061G1206101	100 1206	996500045142
R924	061G0805151	RST CHIPR 150 OHM -5% 1/8W	996500043867
R925	061G0805102	CHIP 1KOHM 1/10W	996500043380
R926	061G0603100 1F	RST CHIPR 1 KOHM -1% 1/10W	996500043955
R927	061G0603360 1F	RST CHIPR 3.6 KOHM -1% 1/10W	996500043477
R930	061G0603243 1F	RST CHIPR 2.43 KOHM +-1% 1/10W	996510002743
R935	061G1206101	100 1206	996500045142
R938	061G0805103	10 KOHM 1/10W	996500043381
R939	061G0805102	CHIP 1KOHM 1/10W	996500043380

R940	061G0603430 2F	RST CHIPR 43 KOHM +-1% 1/10W	996510009156
R942	061G0603100 1F	RST CHIPR 1 KOHM -1% 1/10W	996500043955
R943	061G0805471	470&8 1/10W	996500043397
R946	061G152M151 64	RST MOFR 150 OHM +5% 2WS	996510007231
R961	061G1206101	100 1206	996500045142
R962	061G1206101	100 1206	996500045142
T801	080GL20T 33 DN	XFMR 99.3UH TK.2018R.101	996510009155
T901	080GL20T 32 T	XFMR 610UH SRW24LQ-T16H017	996510009154
BD901	093G 50460 28	BRIDGE DIODE KBP208G LITEON	996500039742
FB902	071G 57G800 B	BEAD HCB3216KF-800T30 BULLWILL	996510007268
IC801	056G 608 10	0Z9938	996500036059
IC901	056G 379 76	IC LD7552BPS SOP-8	996510007250
IC903	056G 139 3A	PC123Y22FZOF	996500036055
IC904	056G 158 12	KIA431A-AT/P TO-92	996500036054
NR901	061G 58100 WD	RST NTCR 10 OHM +-20% 5A	996510009149
RJ801	061G1206000	0 OHM 1/8W	996500039751
RJ802	061G1206000	0 OHM 1/8W	996500039751
RJ803	061G1206000	0 OHM 1/8W	996500039751
RJ901	061G1206000	0 OHM 1/8W	996500039751
RJ902	061G1206000	0 OHM 1/8W	996500039751
ZD801	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD802	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD803	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
ZD902	093G 39S 44 T	RLZ18B LLDS	996500039778
ZD921	093G 39S 44 T	RLZ18B LLDS	996500039778
ZD922	093G 39S 24 T	RLZ 5.6B LLDS	996500036079
FQ026	USB7AA2	USB G2662-B-X-X-1-070611	996510007202
C501	065G0603509 31	CHIP 5PF -0.5PF 50V NPO	996500042692
C502	065G0603509 31	CHIP 5PF -0.5PF 50V NPO	996500042692
C503	065G0603104 12	CER2 0603 X7R 16V 100N PM10 R	996500036918
CN502	088G 351 2B TN	USB CONN	996510009158
FB501	071G 56K121 M	CHIP BEAD	996500036567
FQ027	USB7AA7	USB G2732-B-X-X-1-070716	996510007203
FQ028	089G179E30H 21	FFC CABLE(LPL)	996510009163
FQ029	750GLGA1W3H21M000F	PANEL LM201WE3-TLH2 KR LPL	996510009164
FQ030	CBPC7LMAPHA1	SCALER BOARD ASSY(LPL)	996510009160
U402	705GQ756077	U402 MCU ASSY(LPL)	996510009161
FQ031	PWPCU41GR1	POWER BOARD ASSY(LPL)	996510009162
FQ032	705GQ734486	20 REAR COVER ASSY	996510009116
FQ033	705GQ734487	STAND-BASE ASSY	996510009117
FQ034	Q44GA040 4	CUSHION	996510009125
E08901	089G410A18N IS	POWER CORD WALL-OUT FOR UK	996500037340
E09501	095G8014 7D525	WIRE HARNESS 7P-7P 320MM	996510009115

17. Different Part List

Diversity of 200CW8FB/00 compared with 200CW8FB/69						
Location	200CW8FB/00			200CW8FB/69		
	Part No.	Description	Philips 12NC	Part No.	Description	Philips 12NC
FQ004	089G404A18N IS	POWER CORD 32E1818018				
FQ005	089G404A18N YH	POWER CORD				
FQ007	095G8014 7D525	WIRE HARNESS 7P-7P 320MM				
FQ008	095G8014 7X525	WIRE HARNESS 7P-7P 320MM				
FQ010	750GLCA1WA423M000F	PANEL CLAA201WA04 011 FZ CPT				
FQ011	A33G0233ADT 1L	CABLE COVER		A33G0233ADT 1L 32	CABLE COVER	996510009119
FQ015	A34G0457ADT 1T0100	REAR COVER 200CW8				
FQ016	A34G0459ADT 1B0100	BASE 200CW8				
FQ017	A37G0046 1	200CW HINGE				
FQ021	Q44GA040813 1A	20 LCD PHILIPS CARTON				

Diversity of 200CW8FB/93 compared with 200CW8FB/69						
Location	200CW8FB/00			200CW8FB/69		
	Part No.	Description	Philips 12NC	Part No.	Description	Philips 12NC
E08901	089G414A18N IS	POWER CORD	996500037422	089G410A18N IS	POWER CORD	996500037340
FQ019	Q44GA041 1	CUSHION	996510009165	Q44GA040 1	CUSHION	996510009123
FQ020	Q44GA041 2	CUSHION	996510009166	Q44GA040 2	CUSHION	996510009124
FQ034	Q44GA041 4	CUSHION	996510009167	Q44GA040 4	CUSHION	996510009125
FQ021	Q44GA041813 1A	20 LCD PHILIPS CARTON	996510009168	Q44GA040813 3A	20 LCD PHILIPS CARTON	996510009126
CN902	095G801410D 60	HARNESS 9P-10P 220mm				

18. General Product Specification

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1. FOREWORD

This specification describes a 20.1" SXGA multi-scan color TFT LCD monitor with maximum resolution up to 1680 x 1050 /76 Hz non-interlaced. All optical characteristics (including WHITE-D, Brightness, and so on) are determined according to panel specification after warming up approximate 30 minutes that brightness stability is optimal, and follow strictly after panel specification.

2. PRODUCT PROFILE

This display monitor unit is a color display monitor enclosed in PHILIPS styling cabinet which has an integrated tilt base.

2.1 LCD

Priority : 1. LPL and CPT

Type : TN + film

Supplier offer the Panel specification.

Panel incoming specification : Follow Philips' specification.

LPL LM201WE3-TLH2

Resolution	:	1680x1050 (WSXGA+)
Outside dimensions	:	459.4(H) x 296.5(V) x 16.5(D)
Pitch (mm)	:	0.258 mm x 0.258 mm
Color pixel arrangement	:	RGB vertical stripes
Display surface	:	Hard coating(3H) & Anti-Glare treatment of the front polarizer
Color depth	:	16.7 M colors
Backlight	:	CCFL edge light system
Active area(WxH)	:	433.44 x 270.90mm
View angle (CR>10)	:	160/160 (typ) for H/V
Contrast ratio	:	1000:1 (typ)
White luminance	:	300 nit (typ)
Color gamut	:	72% (typ)
Gate IC	:	OK I MT3806
Source IC	:	Lusem LS0605D1
Response time	:	5 ms (typ)

CPT CLAA201WA04

Resolution	:	1680x1050 (WSXGA+)
Outside dimensions	:	459.4(H) x 296.4(V) x 16.6(D)
Pitch (mm)	:	0.258 mm x 0.258 mm
Color pixel arrangement	:	RGB vertical stripes
Display surface	:	Anti-glare, 3H
Color depth	:	16.7 M colors
Backlight	:	CCFL, 4 tubes (top x 2/bottom x 2), edge light
Active area(WxH)	:	433.44(H) x 270.9(V)
View angle (CR>10)	:	>=160/160 (typ) for H/V
Contrast ratio	:	>=1000:1 (typ)
White luminance	:	>=300 nit (typ)

Color gamut : >=72% (typ)

Gate IC : Novatek NT39615C4H-C1477A

Source IC : Novatek NT3929H-C1478A

Response time : 5 ms

2.2 Scanning frequencies

Hor. : 30 – 83 K Hz

Ver.: 56 - 76 Hz

Video dot rate: < 165 MHz

Power input: 90-264 V AC, 50/60 ± 2 Hz

Power consumption : : 45 W typical

Functions:

(1) D-SUB analog R/G/B separate inputs, H/V sync separated, Composite (H+V) TTL level, SOG sync

(2) DVI digital Panel Link TMDS inputs

2.3 Ambient temperature: 0 °C - 40°C

3. Electrical characteristics

3.1 Interface signals

1). D-Sub Analog

Input signal : Video, Hsync., Vsync

Video : 0.7 Vp-p, input impedance, 75 ohm @DC

Sync. : Separate sync TTL level , input impedance 2.2k ohm terminate

Hsync Positive/Negative

Vsync Positive/Negative

Composite sync TTL level, input impedance 2.2k ohm terminate (Positive/Negative)

Sync on green video 0.3 Vp-p Negative (Video 0.7 Vp-p Positive)

2). DVI-D Digital

Input signal: Single TMDS link (Three channels: RX0-/+, RX1-/+, RX2-/+)

3). USB PLUG support

Input signal: Upstream input (V_{BUS}, D+, D-, GND) via USB-B receptacle.

Output signal: Downstream output (V_{BUS}, D+, D-, GND) through USB-A

3.2 Interface

3.2.1 D-Sub Cable

Length : 1.8 M +/- 50 mm

Fix with monitor when packing, with transplant pin protective cover.

Connector type : D-Sub male with DDC2B pin assignments.

Blue connector thumb-operated jack screws

Pin No.	Signal
1	Red
2	Green/ SOG
3	Blue
4	Sense (GND)
5	Cable Detect (GND)
6	Red GND
7	Green GND
8	Blue GND
9	DDC +3.3V or +5V
10	Logic GND
11	Sense (GND)
12	Bi-directional data
13	H/H+V sync
14	V-sync
15	Data clock

3.2.2 DVI Cable

The input signals are applied to the display through DVI-D cable.

Length. : 1.8 M +/- 50 mm

Connector type . : DVI-D male with DDC-2B pin assignments

White connector thumb-operated jackscrews

With transplant pin protective cover.

Pin Assignment:

Pin No.	Description
1	T.M.D.S. data2-
2	T.M.D.S. data2+
3	T.M.D.S. data2 shield
4	No Connect
5	No Connect
6	DDC clock
7	DDC data
8	No Connect
9	T.M.D.S. data1-
10	T.M.D.S. data1+
11	T.M.D.S. data1 shield
12	No Connect
13	No Connect
14	+5V Power
15	Ground (for +5V)
16	Hot plug detect
17	T.M.D.S. data0-
18	T.M.D.S. data0+
19	T.M.D.S. data0 shield
20	No Connect
21	No Connect
22	T.M.D.S clock shield
23	T.M.D.S. clock+
24	T.M.D.S. clock-

3.2.3 USB Cable (High Full Speed)

Length : 1.8 M +/- 50 mm (Max.)

Connector type : USB- B Plug (Input)

USB- A Plug (Output)

Pin Assignment:

Pin No.	Description
1	VBUS
2	Data+
3	Data-
4	GND

3.3 Timing requirement

Factory Preset mode definition :

1. Perfect FOS while presenting all required timings.
2. Required timings need to be specified in User's Manual

Preset mode definition :

1. Need to support those timings.
2. Perfect FOS after auto adjustment.

User mode

1. Can save those timing that not in Preset mode and can be showed (not over scalar or Panel spec.)
2. It needs to reserve the 12 timings space in memory size.

3.3.1 Mode storing capacity

Factory preset modes : 14

Preset modes : 42

User define modes : 12

Note: 1. Screen displays perfect picture at 14 factory-preset modes.

2. Screen displays visible picture with OSD warning when input modes are the 45 preset modes.

3.3.2 Factory preset modes (14 modes)

Factory modes and preset modes are defined in the enclosed timing table file.

200CW8 Preset Mode				
Item	H.Freq. (KHz)	Mode	Resolution	V.Freq. (Hz)
1	31.469	IBM VGA 10H	640x350	70.086
2	31.469	IBM VGA 3H	720x400	70.087
3	31.469	IBM VGA 12H	640x480	59.94
4	35	MACINTOSH	640x480	67
5	37.861	VESA	640x480	72.809
6	37.5	VESA	640x480	75
7	35.156	VESA	800x600	56.25
8	37.879	VESA	800x600	60.317
9	48.077	VESA	800x600	72.188
10	46.875	VESA	800x600	75
11	49.7	MACINTOSH	832x624	75
12	56.4	-	960x720	75

13	44.75	-	960x720	60
14	48.363	VESA	1024x768	60.004
15	56.476	VESA	1024x768	70.069
16	60.023	VESA	1024x768	75.029
17	61.08	IBM XGA-2	1024x768	75.781
18		CVT 2.3MA	1280 x768	60
19	60.289	CVT 2.3MA	1280 x768	75
20	54.1		1152x864	60
21	63.851	VESA	1152x864	70.012
22	67.5	VESA	1152x864	75
23	68.7	MACINTOSH	1152x870	75
24	61.845	SUN WS	1152x900	66.004
25	71.81	SUN WS	1152x900	76.15
26	60	VESA	1280x960	60
27	75	VESA	1280x960	75
28	63.981	VESA	1280x1024	60.02
29	71.691	SUN WS	1280x1024	67.189
30	76	DOS/V	1280x1024	72
31	79.976	VESA	1280x1024	75.025
32	81.13	SUN WS	1280x1024	76.11
33	91.1	VESA	1280x1024	85
34	44.772	-	1280x720	60
35	52.5	-	1280x720	75
36	64	CVT-reduced blanking	1400x1050	60
37	80	CVT	1400x1050	75
38	55.469	VESA-reduced blanking mode	1440x900	59.901
39	55.935	VESA	1440x900	59.887
40	70.635	VESA	1440x900	74.984
41	75	VESA	1600x1200	60
42	66.587	CVT 2.3MA-R	1920x1080	60.0 (for DVI-D
43	65.29	CVT1.76MW	1680x1050	60
44	74.52	CVT 2.3MA-R	1920x1200	60.0 (for DVI-D)
45			1600x1000	60

3.3.3 Software control functions via OSD / control adjustable functions:

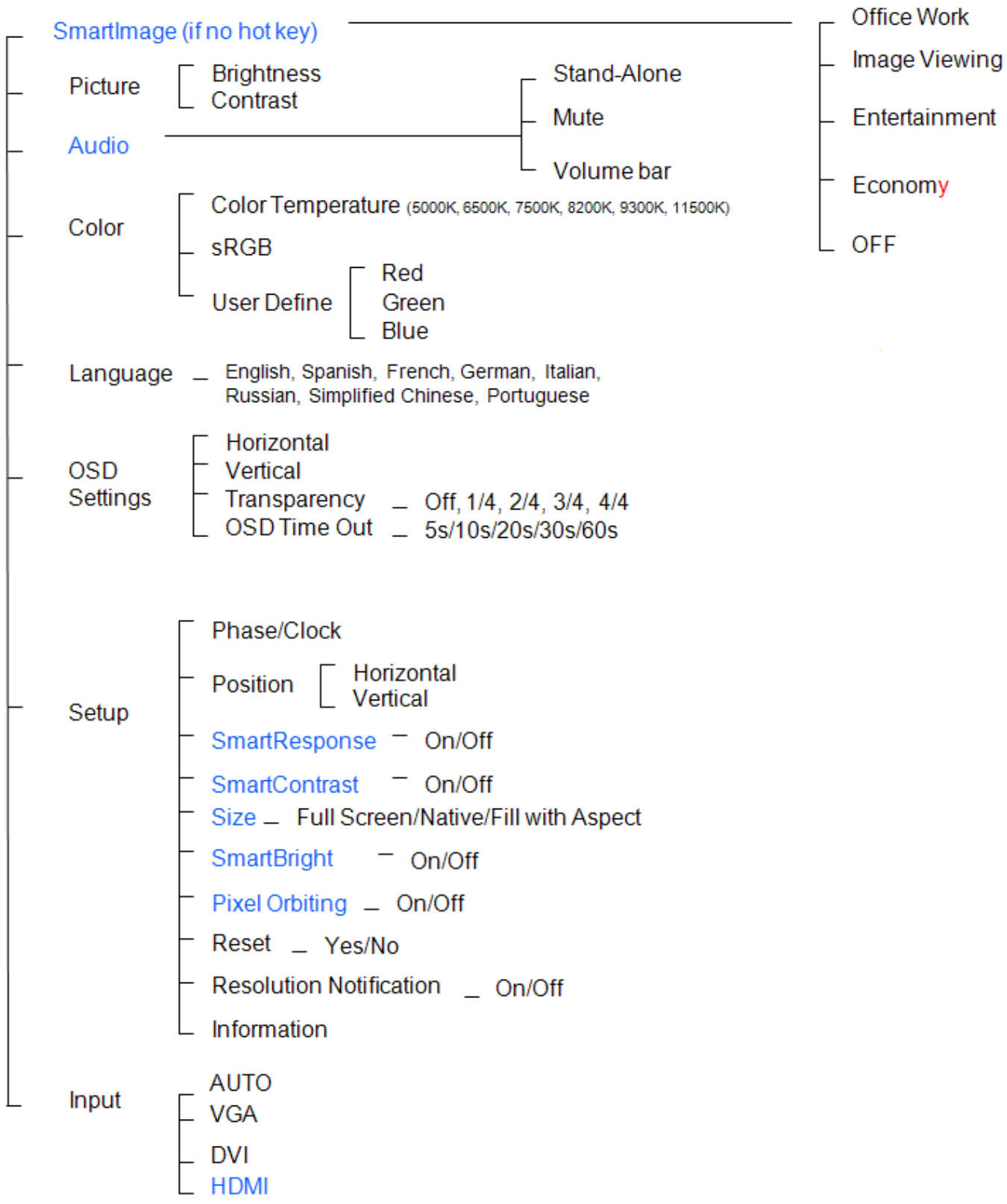
Please refer to following Hudson8 OSD definitions

Reset - No: Exit

Yes: Auto adjustment for displaying timing mode and recall factory preset

OSD Languages –8

OSD Tree



3.4 Horizontal scanning

Sync polarity : Positive or Negative

Scanning frequency : **30 – 83 K Hz**

3.5 Vertical scanning

Sync polarity : Positive or Negative

Scanning frequency : **56 - 76 Hz**

3.6 Power input connection

Power cord length : 1.8 M

Power cord type : 3 leads power cord with protective earth plug.

3.7 Power management

The monitor must comply with the Microsoft On Now specification, and meet EPA requirements.

Mode	HSYNC	VSYNC	Video	Power-cons.	Indication	Rec. time
Power-On	On	On	active	45W typical	Green LED	--
Off	Off	Off	blanked	< 1 W	Amber LED	< 3 s
DC Power Off			N/A	< 1 W	LED Off	

3.8 VGA Display identification

In accordance with VESA Display Channel Standard Ver.1.0 and DDC 2B capability

3.9 DVI- D Display identification

In accordance with DVI requirement (DDWG digital Visual Interface revision 1.0) use DDC-2B, DDC/CI, and EDID V1.3

3.10 USB Plug support

Connect the upstream port of the monitor to host PC's USB port via USB cable, then attach external device to the downstream port of the monitor. Check if the device can work properly.

3.11 DDC/ CI Support

In accordance with VESA DDC/CI and MCCS ver.2.0, the monitor should be workable with Protrait Display Tune at least.

3.12 EDID

1	User visible strings on .inf file	Philips 200CW (20inch WIDE LCD MONITOR 200CW8)
2	Manufacturer ID (EDID data)	PHL
3	Product ID, "xxxx" 4 codes	MSB(byte 12): C0
		LSB (byte 11): 19
4	maximum resolution	1680x1050
5	Horizontal Frequency Range	30~83 KHz
6	Vertical Frequency Range	56~76Hz
7	Monitor Name (13 characteries max.)	Philips 200CW

3.13 Hot-key definition

	Key	Key Press Time	OSD Timeout	EDFU implement	Service menu
Monitor Controls Lock	OK(Menu)	6 sec (lock/unlock)	3 sec	V	V
Factory Mode	AUTO+OK+Power On	Keep pressing when power on			V
Demo mode for smart image	Smart Image Key	3 sec (Enter/Quit)		V	V
DDC/CI On/OFF for VISTA	MENU+DOWN	6 sec (lock/unlock)	3 sec	V	V

3.14 Smart contrast (Dynamic contrast ratio)

Smart Contrast is a kind of dynamic backlight control.

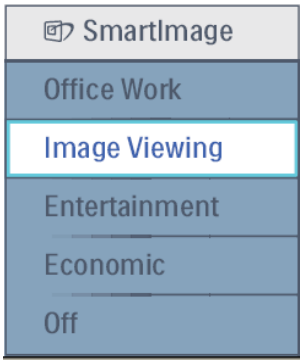
This function changes

the panel backlight dynamically according to the frame brightness histogram.

The contrast ratio has to be 3000:1. (typical)

3.15 Smart Image

3.15.1Smart Image OSD outlook



3.15.1.1 Position

Pressing the “Smart Image” button, the position is in the bottom center of the screen.

3.15.1.2 Smart Image Logo & Banner

As design to keep the Light Frame logo at header but change the name to “SmartImage” with bitmap format.

3.16.1.3 Icon of each profile

Each profile will use text instead of icon & text before.

3.16.1.4 User Operation Procedure

A. 5 different modes are switched to next in the sequence from 1 to 5 then back to 1 while pressing this button: 1) Office Work 2) Image Viewing 3) Entertainment 4) Economy 5) Off. The default setting is ‘Off”.
B. The FOS optimization will be changed in real time by which profile to be scrolled, users don’t need to confirm to enable.
C. The Smart Image OSD will remain on screen for 5 seconds after user last action. Or user can also press [MENU] to close the Smart Image OSD immediately.
D. Except using [MENU] button to scroll down profile. If Smart Image OSD already launched onscreen. User is allowed to use up/down key to choose profile and press [MENU] to confirm selection and close the Smart Image OSD.
E. If the model has multiple inputs including VGA and DVI, each input has their own set of profiles. When user switch input, the profile to be applied will also change.
F. Each input can memorize their individual “Smart Image” profile status.

For example, Smart Image is on with “Office” profile at VGA input, when switch to DVI input, the Smart Image will revert to previous profile of DVI. In the input switching process the “Smart Image” OSD will also show up to present which profile is selected if “Smart Image” is enabled at that input. The Smart Image status will also be stored after the monitor is resumed from AC on/off or power switch on/off.

3.15.1.5Linkage between Smart Image OSD and main OSD

A. Settings within main OSD have linkage with Smart Image OSD.

i. Brightness

ii. Contrast

iii. Color Temperature

B. Because each preset profiles will define default setting of these 3 parameters. Users can understand what is the value of that in preset profile by open the main OSD.

C. When any SmartImage Lite profile had been enabled. The parameters in main OSD are still available for user to adjust. But these adjustments are temporary only. If users switch to another profile and then go back. The setting in main OSD will show preset values of that Smart Image profile enabled.

3.16.1.5 Profile Definitions (system integrators to input at design stages)

A. Office Work

i Purpose: Design for general office application, like word processing, Spreadsheet and email. The screen is dominated by text.

ii. Enhancement point:

1.A little sharpness for increasing the details of e.g. an excel grid. No other type of enancement as it won't bring value.

1. Color temperature remains in 6500°K.
2. Brightness level should be 70%.
3. Smart Response set to “Off”.
4. Smart Contrast set to “Off”.

B. Image Viewing

i. Purpose: Design for image viewing application, especially in slide show. The screen is dominated by picture. Powerpoint presentation could use this profile also.

ii. Enhancement Point:

1. Dynamic contrast enhancement by histogram analysis (DLC) should be off.
2. Sharpness and color to be enhanced 75%.
3. Color temperature 6500°K–
4. Brightness level sets to maximum.
5. Smart Response set to “Off”.
6. Smart Contrast set to “Off”.

C Entertainment

i. Purpose: Design for video application, Like Microsoft Media Player or Real Player. The screen is dominated by video.

ii Enhancement Point:

1. Dynamic contrast enhancement by histogram analysis (DLC) should be implemented.
2. Sharpness enhanced 90%.
3. Color enhancement set as the same with Video.
4. Color temperature set to 7500° (Based on final PQ settings) (if higher)
5. Brightness level sets to maximum.
6. SmartResponse set to “High”.(N/A for this model)
7. Gamma Table turn off to achieve
8. Fastest response time. (N/A for this model)
9. Smart Contrast set to “On”

D. Economy

i.Purpose: Adjust brightness level for reducing power consumptions

ii.No optimization by Smart Image.

iii.Design:

1. Brightness level set to 70%, a little higher brightness level than laptop PC, fine tune brightness level before DVT exit.
2. Color temperature set to 6500K.
3. Gamma Table is turn on.

E. Off

i. Purpose: No optimization by SmartImage.

ii. Design:

1. This will follow user OSD setting. If any change by user, it will be saved. When switch back from other SmartImage profiles, it will go back to last saved setting.
2. Gamma Table is turn on to reduce bad color tracking.

3.15.1.7Demo mode

A. Purpose: Built-in demo mode for sales in-store demo.

B. Design:

i. Dynamically split screen to 2 vertical frames with one vertical white line. The line width is 2 pixels. The left frame will be enhanced by SmartImage and right frame remains original performance.

ii. There is OSD showing “SmartImage On” in left frame and “SmartImage Off ” in right frame.

iii. The OSD word color is white with transparent background.

C. The demo profile will be “entertainment profile setting.

D. Hot keys to trigger:

Press [SmartImage] 3 seconds or more to trigger the demo mode. When demo mode is On, press 3 seconds or more to turn off the demo mode. When the demo mode is enabled, the blue LED will flash until demo mode disabled.(N/A for this model)

3.16 Smart Response

Gray to Gray Response time : 2ms (Avg.)

4. Visual characteristics

4.1 Test conditions

Unless otherwise specified, this specification is defined under the following conditions.

(1) Input signal : As defined in 3.3, 1680 x 1050
non-interlaced mode (1680 x 1050@60Hz 146.25MHz), signal sources must have 75 ohm output impedance.

(2) Luminance setting : controls to be set to 300 nits (typical) with full screen 100 % duty cycle white signal

(3) Warm up: more than 30 minutes after power on with signal supplied.

(4) Ambient light: 400 -- 600 lux.

(5) Ambient temperature: 20 ± 5 °C

4.2 Brightness

Follow Panel specification.

4.3 Image size

Actual display size 376.3 x 301.1 mm

4.4 Brightness uniformity

Set contrast at 100% and turn the brightness at 100%.

Apply the Fig 1, it should comply with the following formula:

$$\frac{B\_min}{B\_max} \times 100\% > 75\%$$

Where B_max =Maximum brightness, B_min = Minimum brightness

4.5 Check Cross talk (S)

Apply Pattern 2. Set contrast and brightness at 100 %.

Measure YA. Then output Pattern 3 and measure YB.

the cross talk value :

$$\frac{ABS(YA - YB)}{YA} \times 100\% < 1.5\%$$

4.6 White color adjustment

There are seven factory preset white color 11500K, 9300K, 8200K, 7500K, 6500K, sRGB, 5000K

Apply full gray64 pattern, with brightness in 100 % position and the contrast control at 50 % position.

The 1931 CIE Chromaticity (color triangle) diagram (x ,y) coordinate for the screen center should be:

Product specification

CIE coordinates	(x,y)	
11500K	x = 0.272 ± 0.02 y = 0.283 ± 0.02	
9300K	x = 0.283 ± 0.02 y = 0.297 ± 0.02	
8200K	x = 0.292 ± 0.02 y = 0.307 ± 0.02	
7500K	x = 0.299 ± 0.02 y = 0.315 ± 0.02	
6500K/sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	
sRGB	x = 0.313 ± 0.02 y = 0.329 ± 0.02	
5000K	x = 0.346 ± 0.02 y = 0.359 ± 0.02	

Production alignment spec.

CIE coordinates	(x,y)	
11500K	x = 0.272 ± 0.005 y = 0.283 ± 0.005	
9300K	x = 0.283 ± 0.005 y = 0.297 ± 0.005	
8200K	x = 0.292 ± 0.005 y = 0.307 ± 0.005	
7500K	x = 0.299 ± 0.005 y = 0.315 ± 0.005	
6500K/sRGB	x = 0.313 ± 0.005 y = 0.329 ± 0.005	
sRGB	x = 0.313 ± 0.005 y = 0.329 ± 0.005	
5000K	x = 0.346 ± 0.005 y = 0.359 ± 0.005	

Quality Inspection specification:

CIE coordinates	(x,y)	
9300K	x = 0.283 ± 0.015 y = 0.297 ± 0.015	
6500K/sRGB	x = 0.313 ± 0.015 y = 0.329 ± 0.015	
sRGB	x = 0.313 ± 0.015 y = 0.329 ± 0.015	

5. Mechanical characteristics

5.1 Cosmetic - Philips ID

5.2 Mechanical data files - ProE files required

5.3 Location of Philips logo - Per Philips make-up sheet

5.4 Gap between panel and front bezel < 1.2 (typ) mm

5.5 Location of Control icons - Per Philips Graphic sheet

5.6 Color for resin/paint - Per Philips make-up sheet

5.7 Resins

- RoHS required
- WEEE required.
- Resin type/selection refer to Project Book Section 7.2 Plastic material.

5.8 If paint is used

- RoHS required
- WEEE require
- If new painting type need to implement, refer to UN-D 1235.

5.9 Plastic mold tooling

- Tooling to be designed to minimize cosmetic defects induced by molding process (sink, blush, weld lines, gate marks, ejector marks, etc.). Refer to “TYV61-90007”.
- Painting to cover up cosmetic defects due to molding is strongly discouraged.

5.10 Plastics flammability

- All Plastics to be Flame Retardant UL 94-V0 or Better (if monitor weighs less than 18kg; UL94-V0 is OK).
- Base / Pedestal to be Flame Retardant UL 94-HB.
- All major plastic parts (bezel, back cover, base) need to be molded from same resin.
- ABS V0 is allowed to implement in China region for monitor body major plastic parts (bezel, back cover, base).
- Plastic resin type selection should be referred to “TY R83-2-9002-1”s.

5.11 Texture/Glossing of housing

- The texture area and texture no should follow Philips make-up sheet.
- The exterior surfaces shall have a uniform texture.
- Philips must approve the mold texturing.
- Detail document for texture refer to “UN-D249”, “UN-D 600”.
- < = 20 gloss units

5.12 Tilt and swivel base

- Tilt angle : -5 ° +2/- 0 ° (forward)
  +20 °+3/-0 ° (backward)
- Swivel angle : _____ nil
- High Adjustment : _____ nil
- Portrait Display : _____ nil

5.13 Kensington Lock

- Must meet Kensington_slot.spec “TYE-M0004”.
- MMD request metal plate in Kinsington hole.

5.14 Label

- Regulatory label / Carton label should follow Philips requirement.
- China RoHS label
- Detail document refer to Philips Engineering Reference Book.

5.15 Product dimension / Weight (Refer to SHT 191)

- Unit dimension : mm (W) * mm(H) * mm(D)
- Packed unit dimension : mm(W) * mm(H) * mm(D) for WW
  : mm(W) * mm(H) * mm(D) for China
- Net weight : Kg (Including I/F cable 300g)
- Gross weight : Kg for WW
  : Kg for China

5.16 Transportation

Transportation standards refer to TYE-M0002.

5.16.1 Transportation packages

Packaging and wrapping shall be sufficient to protect the product against damage or loss during shipment from the supplier to the destination specified in the purchase order. All packaging materials are subject to test and evaluation per TYE-M0002. The cushion material shall be constructed using EPS material.

5.16.2 Transportation Test

The overall test refer to TYE-M0002.

Vibration, drop test should be performed at ambient temperature(20°C to 23°C) and relative humidity (40% to 65%).

A. Transportation test specification for all regions except China/India

- Package test
  1. Random Vibration test
  2. Drop test
  3. Cold Drop test (for design reference)
- Un-package test
  1. Half sine shock test (non operation)

B. Transportation test specification for China/India

- Package test
  1. Random Vibration test
  2. Drop test
  3. Cold Drop test (for design reference)
- Un-package test
  1. Sine vibration (operating)
  2. Half sine shock test (non operation)

5.17 Pallet / Container loading

Transportation standards refer to TYE-M0002 and UAW-0309.

- Air shipment -
- Sea container 20'(pallet/slip sheet)
- Sea container 40'(pallet/slip sheet)
- Sea container 40' High Cube (pallet/slip sheet)
- Truck shipment-

Transportation request for all region except China/India

A. Air shipment
B. Container loading for WW
C. Land 53‘ MEGA Trailer

Transportation request for China and India

A. Container loading for China and India
B. Truck loading

6. Environmental characteristics

The following sections define the interference and susceptibility condition limits that might occur between external environment and the display device.

6.1 Susceptibility of display to external environment

Operating

- Temperature : 0 to 35 degree C
- Humidity : 80% max
- Altitude : 0-3658m
- Air pressure : 600-1100 mBAR

Storage

- Temperature : -20 to 60 degree C
- Humidity : 95% max
- Altitude : 0-12192m
- Air pressure : 300-1100 mBAR

Note: recommend at 5 to 35°C, Humidity less than 60 %

6.2 Transportation tests

Refer to 5.15.2

6.3 Display disturbances from external environment

According to IEC 801-2 for ESD disturbances

6.4 Display disturbances to external environment

7. Reliability

7.1 Mean Time Between Failures

System MTBF (Including the LCD panel and CCFL) : 50,000 hrs

8. Quality assurance requirements

8.1 Acceptance test

According to MIL-STD-105D Control II level

AQL: 0.4 (major)

1.5 (minor)

(Please also refer to annual quality agreement)

Customer acceptance criteria: UAW0377/00

9. Philips' Flat Panel Monitors Pixel Defect Policy

Philips' Flat Panel Monitors Pixel Defect Policy

BRIGHT DOT DEFECTS	**ACCEPTABLE LEVEL**		
MODEL	**200CW8**		
1 lit sub-pixel	3		
2 adjacent lit sub-pixels	1		
3 adjacent lit sub-pixels (one white pixel)	0		
Distance between two bright dots	15mm		
Bright dot defects within 20 mm circle	0		
Total bright dot defects of all type	3		

BLACK DOT DEFECTS	**ACCEPTABLE LEVEL**		
MODEL	**200CW8**		
1 dark sub-pixel	5		
2 adjacent dark sub-pixels	2		
3 adjacent dark sub-pixels (one white pixel)	1		
Distance between two black dots	15mm		
Black dot defects within 20 mm circle*	1		
Total black dot defects of all type	5		

TOTAL DOT DEFECTS	**ACCEPTABLE LEVEL**		
MODEL	**200CW8**		
Total bright or black dot defects of all type	5		

Fig 1: Measurement locations of Brightness Uniformity

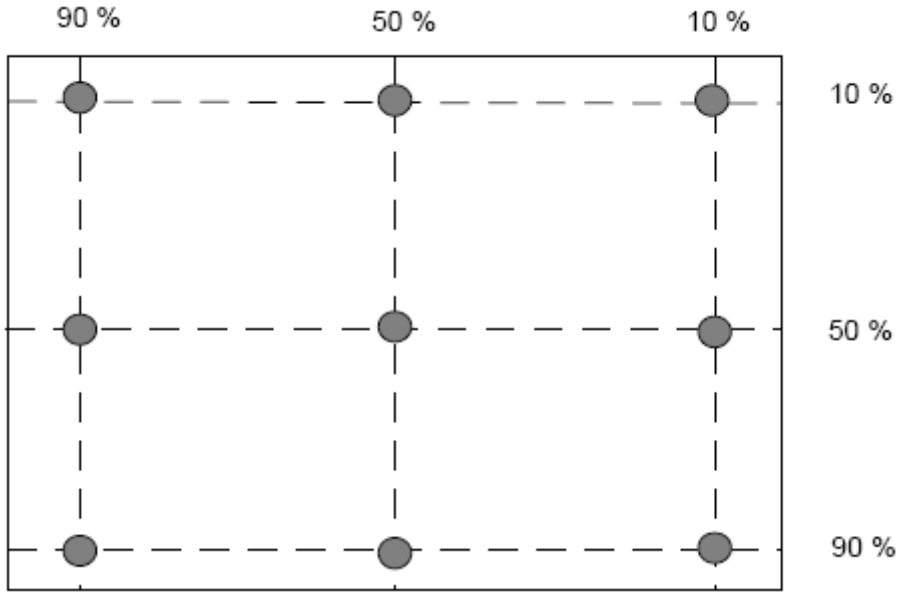


Fig 2: Cross talk pattern

Gray level 46 (64 Gray level)

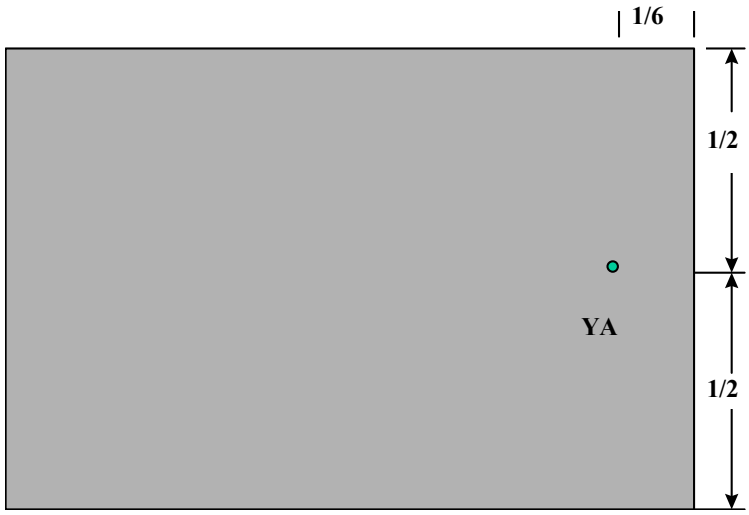
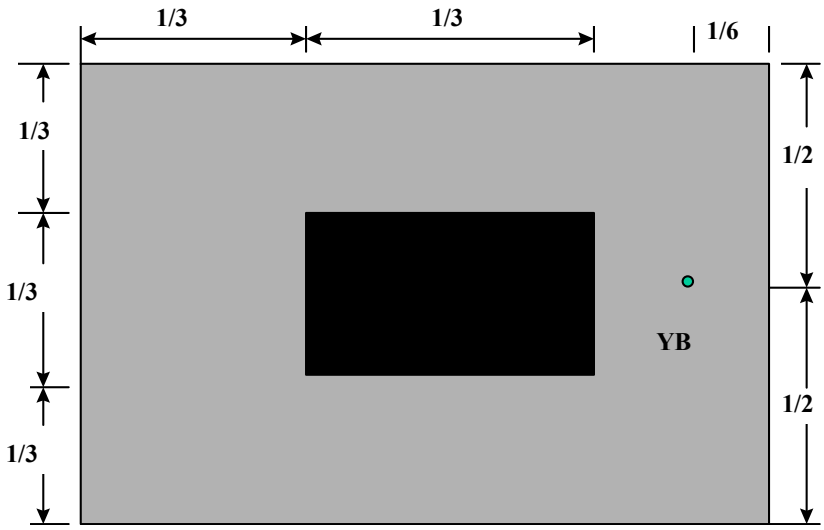
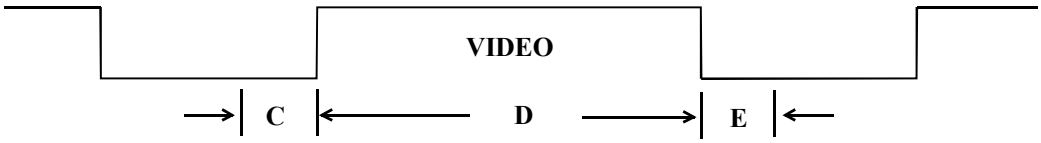


Fig 3: Cross talk Pattern

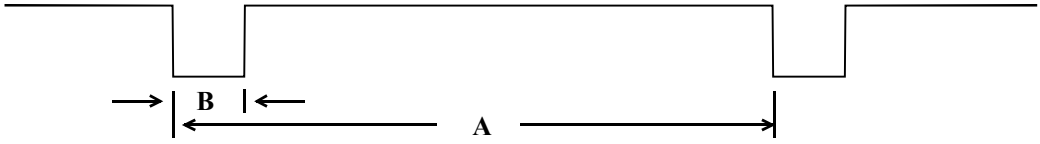
Center at Gray level 0 (Black)

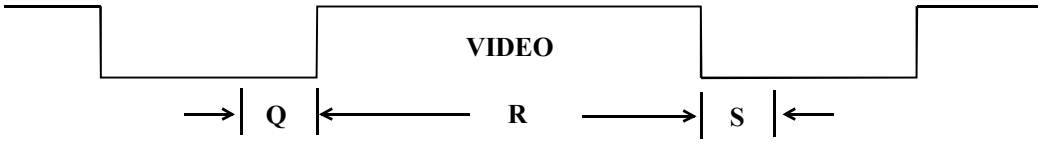


SEPARATE SYNC.

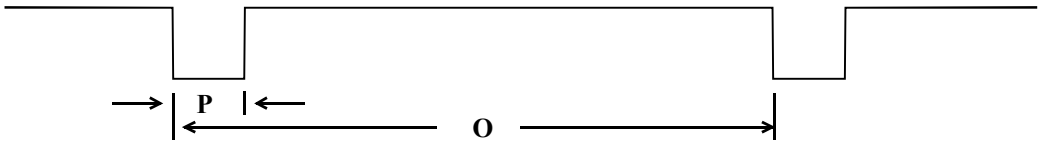


HORIZONTAL

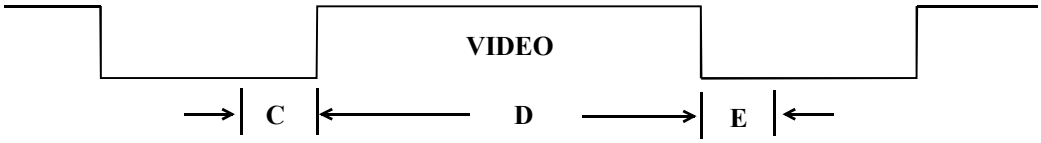




VERTICAL



COMPOSITE SYNC.



HORIZONTAL

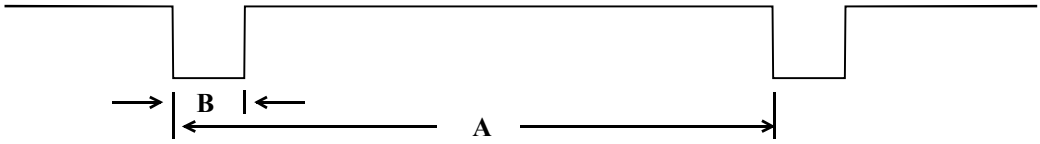


FIG-4 TIMING CHART -1

10. REGULATORY COMPLIANCE

10.1 Worldwide Regulatory

COUNTRY	DOMAIN	SAFETY / EMC / ERGONOMICS / STANDARDS	DOCUMENTS
INTERNATIONAL	Sa	IEC60950-1:2001. Group -and national differences of all countries listed in CB Bulletin No. 107A	CB Report and CB certificate
EUROPE	Sa	European Low Voltage Directives 73/23/EEC and 93/68/EEC	Declaration of Conformity
	E	European Electromagnetic Compatibility Directive 89/336/EEC amended by the directive 93/68/EEC. EN 55022:1998 Class B	Declaration of Conformity and Full EMC/CE test report
		EN 55024: 1998	
		EN 61000-3-2: 2000	
		IEC 61000-3-3: 1994/EN61000-3-3: 1995	
		CISPR 22:1997 Class B International EMC standard	
GERMANY	Sa	EN60950-1:2001	TUV certificate
	O	ISO 13406-2: 2001 & prEN 50279:1998	TUV-ERG certificate
	O	GS-Mark / EK1-ITB 2000	TUV-GS certificate
SWEDEN	Sa	EN60950-1:2001	SEMKO certificate
	O	TCO 99 (TCO03)	TCO99 (TCO03) report + certificate
RUSSIA	Sa	GOST R 50377-1992	GOST certificate
SOUTH AFRICA	Sa	SABS IEC 60950	Certificate of Conformity

USA	Sa	UL 60950-1: 2003	UL certificate
	E	FCC Part 15 Class B	FCC ID grant
	O	Energy Star	EPA registration
CANADA	Sa	CSA C22.2 No 60950	CSA certificate
	E	ICES-003 issue 3	Statement on label
MEXICO	Sa	NOM-019-SCFI-1994	NOM certificate
KOREA	Sa	Korean Safety Control law IEC 60950	eK certificate
	E	Regulations laws: EMI 1996-78, 80. EMS 1996-79,81	MIC certificate
SINGAPORE	Sa	IEC60950	PSB certificate
CHINA	Sa	GB4943-2001	CCC certificate
	E	GB9254-1998; 17625.1-2003	
TAIWAN	Sa	CNS-14336 (IEC 60950-1)	BSMI certificate
	E	CNS-13438 (CISPR22) Class B	

10.2 EMC Requirements

Supplier DVT EMI test result must be submitted prior to DVT samples delivery, and PVT EMI test result must be submitted again prior to PVT samples delivery, which also has to meet Philips' immunity testing specification.

10.3 RoHS

Restriction on the use of certain hazardous substances. Lead, Cadmium, Mercury, Hexavalent Chromium, Polybrominated Bipheny1 (PBB) and Polybrominated Bipheny1 Ether (PBDE)(flame retardant).

10.4 WEEE

Producer (Philips) responsible for retailer take back schemes and recycling.

--System implemented.

--Collection and recycle targets.

10.5 Ongoing Regulatory

There's a possibility that other regulatory certificates will be required during the life of the product. It is the responsibility of the supplier to provide related documentation.

TELEVISION/MONITOR SAFFTY GUIDELINES FOR THE PROFESSIONAL SERVICE TECHNICIAN

Safety Checks

After the original service problem has been corrected,a complete safety check should be made. Be sure to check over the entire set, not just the areas where you have worked. Some previous servicer may have left an unsafe condition,which could be unknowingly passed on to your customer. Be sure to check all of the following:

Fire and Shock Hazard

1. Be sure all components are positioned in such a way as to avoid the possibility of adjacent component shorts. This is especially important on those chassis which are transported to and from the service shop.
2. Never release a repaired unit unless all protective devices such as insulators, barries, covers, strain reliefs, and other hardware have been installed in accordance with the original design.
3. Soldering and wiring must be inspected to locate possible cold solder joints,solder splashes,sharp solder points, frayed leads, pinched leads, or damaged insulation (including the ac cord).Be certain to remove loose solder balls and all other loose foreign particles.
4. Check across-the-line components and other components for physical evidence of damage or deterioration and replace if necessary. Follow original layout,lead length, and dress.
5. No lead or component should touch a receiving tube or a resistor rated at 1 watt or more. Lead tension around protruding metal surfaces or edges must be avoided.
6. Critical components having special safety characteristics are identified with ans by the Ref. No. in the parts list and enclosed within a broken line * (where several critical components are grouped in one area) along with the safety symbols on the schematic diagrams and/or exploded views.
7. When servicing any unit, always use a separate isolation transformer for the chassis Failure to use a separate isolation transformer may expose you to possible shock hazard, and may cause damage to servicing instruments.
8. Many electronic products use a polarized ac line cord (one wide pin on the plug.) Defeating this safety feature may create a potential hazard to the service and the user. Extension cords which do not incorporate the polarizing feature should never be used.
9. After reassembly of the unit, always perform an leakage test or resistance test from the line cord to all exposed metal parts of the cabinet. Also check all metal control shafts(with knobs removed), antenna terminals, handles, screws, etc. to be sure the unit may be safety operated without danger of electrical shock.

* Broken line

Implosion

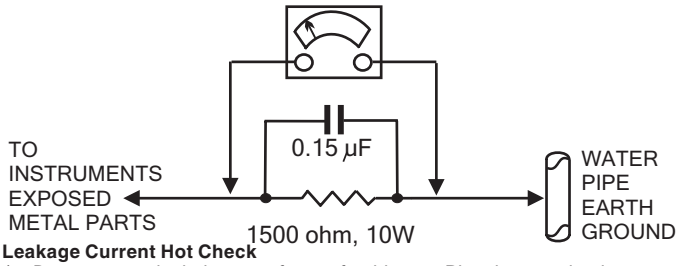
1. All picture tubes used in current model receivers are equipped with an integral implosion system. Care should always be used, and safety glasses worn,whenever handling any picture tube. Avoid scratching or otherwise damaging the picture tube during installation.
2. Use only replacement tubes specified by the manufacturer.

X-radiation

1. Be sure procedures and instructions to all your service personnel cover the subject of X-radiation. Potential sources of X-rays in TV receivers are the picture tube and the high voltage circuits. The basic precaution which must be exercised is to keep the high voltage at the factory recommended level.
2. To avoid possible exposure to X-radiation and electrical shock, only the manufacturer's specified anode connectors must be used.
3. It is essential that the service technician has an accurate HV meter available at all times. The calibration of this meter should be checked periodically against a reference standard.
4. When the HV circuitry is operating properly there is no possibility of an x-radiation problem. High voltage should always be kept at the manufacturer's rated value-no higher - for optimum performance. Every time a color set is serviced, the brightness should be run up and down while monitoring the HV with a meter to be certain that the HV is regulated correctly and does not exceed the specified value. We suggest that you and your technicians review test procedures so that HV and HV regulation are always checked as a standard servicing procedure, and the reason for this prudent routine is clearly understood by everyone. It is important to use an accurate and reliable HV meter. It is recommended that the HV recorded on each customer's invoice, which will demonstrate a proper concern for the customer's safety.
5. When troubleshooting and making test measurements in a receiver with a problem of excessive high voltage, reduce the line voltage by means of a Variac to bring the HV into acceptable limits while troubleshooting. Do not operate the chassis longer than necessary to locate the cause of the excessive HV.
6. New picture tubes are specifically designed to withstand higher operathng voltages without creating undesirable X-radiation. It is strongly recommended that any shop test fixture which is to be used with the new higher voltage chassis be equipped with one of the new type tubes designed for this service. Addition of a permanently connected HV meter to the shop test fixture is advisable. The CRT types used in these new sets should never be replaced with any other types, as this may result in excessive X-radiation.
7. It is essential to use the specified picture tube to avoid a possible X-diation problem.
8. Most TV receivers contain some type of emergency "Hold Down" circuit to prevent HV from rising to excessive levels in the presence of a failure mode. These various circuits should be understood by all technicians servicing them, especially since many hold down circuits are inoperative as long as the receiver performs normally.

Leakage Current Cold Check

1. Unplug the ac line cord and connect a jumper between the two prongs of the plug.
2. Turn on the power switch.
3. Measure the resistance value between the jumpered ac plug and all exposed cabinet parts of the receiver, such as screw heads, antennas, and control shafts. When the exposed metallic part has a return path to the chassis, the reading should be between 1 megohm and 5.2 megohms. When the exposed metal does not have a return path to the chassis, the reading must be infinity. Remove the jumper from the ac line cord.



Leakage Current Hot Check

1. Do not use an isolation transformer for this test. Plug the completely reassembled receiver directly into the ac outlet.
2. Connect a 1.5k, 10w resistor paralleled by a 0.15uf. capacitor between each exposed metallic cabinet part and a good earth ground such as a water pipe, as shown above.
3. Use an ac voltmeter with at least 5000 ohms volt sensitivity to measure the potential across the resistor.
4. The potential at any point should not exceed 0.75 volts. A leakage current tester may be used to make this test; leakage current must not exceed 0.5 milliamps. If a measurement is outside of the specified limits, there is a possibility of shock hazard. The receiver should be repaired and rechecked before returning it to the customer.
5. Repeat the above procedure with the ac plug reversed.(Note: An ac adapter is necessary when a polarized plug is used. Do not defeat the polarizing feature of the plug.)

Picture Tube Replacement

The primary source of X-radiation in this television receiver is the picture tube. The picture tube utilized in this chassis is specially constructed to limit X-radiation emissions. For continued X-radiation protection, the replacement tube must be the same type as the original, including suffix letter, or a Philips approved type.

Parts Replacement

Many electrical and mechanical parts in Philips television sets have special safety related characteristics. These characteristics are often not evident from visual inspection nor can the protection afforded by them necessarily be obtained by using replacement components rated for higher voltage, wattage, etc. The use of a substitute part which does not have the same safety characteristics as the Philips recommended replacement part shown in this service manual may create shock, fire, or other hazards

WARNING : Before removing the CRT anode cap, turn the unit **OFF** and short the HIGH VOLTAGE to the CRT DAG ground.
SERVICE NOTE : The CRT DAG is not at chassis ground.